

Recently Rediscovered Type Materials of Orchids Described by Dr. Fukuyama and Dr. Masamune

Ken INOUE^a, Teruo KATSUYAMA^b, Hideo TAKAHASHI^b and Mamoru AKIYAMA^c

^aBiological Institute and Herbarium, Faculty of Science, Shinshu University, Matsumoto, Nagano, 390-8621 JAPAN;

^bKanagawa Prefectural Museum of Natural History, Odawara, Kanagawa, 250-0031 JAPAN;

^c██████████ Ayase, Kanagawa, 252-██████████ JAPAN

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Dr. Masamune's private specimens were posthumously gifted to the herbarium of Kanagawa Prefectural Museum of Natural History. Among them, we found many orchid type materials described by Dr. Fukuyama and several by Dr. Masamune himself. We here report Fukuyama's type materials on 68 taxa, and Masamune's ones on 10 taxa.

Dr. Noriaki Fukuyama described more than one hundred new species of orchids from Taiwan, the Ryukyus and Micronesia, and he died in Taiwan. His type specimens were mostly deposited in his private herbarium (Herb. Orch. Fuk.), and were believed to have been lost during the confusion after the World War II. Dr. Genkei Masamune died at Kanagawa, central Japan, in 1995 and his collections were gifted to the herbarium of Kanagawa Prefectural Museum of Natural History (KPM). In the course of investigating his collections, we found most of Fukuyama's type materials of Taiwan orchids. It is most likely that Dr. Masamune took Fukuyama's type specimens back to Japan after the death of Dr. Fukuyama, because Dr. Masamune was the teacher of Dr. Fukuyama. We discovered Fukuyama's original manuscripts of "Studia Orchidacearum Japonicarum. XI, XII, and XIII" in the library of Dr. Masamune. A part of the manuscripts was published after the death of Dr. Fukuyama by Dr. Masamune in Japan. This may be a supporting evidence that Dr. Masamune brought back the Fukuyama's type materials.

We found that most of the Fukuyama's

labels were cut off and the collection numbers on his labels were lost, although several labels remained intact. We inferred that Dr. Masamune had separated the specimens and labels in packing during the return trip to Japan and re-mounted the specimens in Japan. In the course of this remounting, most of collection numbers of Fukuyama's label seemed to be cut off. Furthermore, several original labels seemed to be lost and Dr. Masamune's transcription of such informations as collector name, collection date and locality were unfortunately insufficient. These make it difficult to designate the original materials legitimately. Thus, we concluded to select the specimens with Fukuyama's original collection numbers as holotypes and those with Fukuyama's original label without numbers not to select as lectotypes or isotypes and only described them. Similarly, we treated the specimens without Fukuyama's original labels only to report them as type materials. However, some letters such as "T", "G", or Japanese character "ta" were added on several small envelopes by Dr. Masamune. As "T" or "ta" are the initials of "Type", we inferred these letters to indicate

type specimens designated by Dr. Masamune. The letter “G” is the initial of first name of Dr. Masamune and may be an another designation of type specimen by Dr. Masamune.

In addition, we found several of type materials described by Dr. Masamune himself. In several of his type specimens, Dr. Masamune did not describe the herbarium where they were deposited. We found that type specimens were deposited in the herbaria of University of Tokyo (TI), or Taiwan University (TAI), or were owned by himself. We only describe type materials deposited in KPM unless other informations are available.

According to the Flora of Taiwan (1978), several type specimens which were deposited in TAI in the original description are not found at present. We are ready to send the relevant specimens to TAI on request, although the type materials found now may not be the type specimens deposited in TAI.

Several specimens described by Dr. Fukuyama were collected by Dr. Ohwi and the duplicates were deposited in the herbarium of Kyoto University (KYO). We found several corresponding specimens in KYO and included them in this report.

Fukuyama's Type Materials

1. *Acanthephippium pictum* Fukuy. in Bot. Mag. Tokyo **49**: 666 (1935).

TYPE: TAIWAN. Ins. Kotosyo [紅頭嶼], Mt. Koto-san [紅頭山] (N. Fukuyama 4679, Jul. 17 1934, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Ins. Kotosyo, Mt. Koto-san (N. Fukuyama s.n., Jul. 17 1934, KPM-NA0105501 – Fig. 1A).

2. *Amitostigma alpestre* Fukuy. in Bot. Mag. Tokyo **49**: 664 (1935).

TYPE: TAIWAN. Taihoku, Mt. Nanko-taizan [南湖大山], Bunakkei (N. Fukuyama 4692, Jul. 26 1933, Holotype formerly in Herb. Orch. Fuk. now in KPM, KPM-NA0105502 – Fig. 1B; KPM-NA0105616).

Note: The letter “T” is added on the label.

3. *Amitostigma yuukiana* Fukuy. in Bot. Mag. Tokyo **48**: 429 (1934).

TYPE: TAIWAN. Shinchiku, in herbis alpina prope Yuuki (N. Fukuyama 4116, Jul. 1932, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Shinchiku [新竹], prope Yuuki (N. Fukuyama (sub. H) s.n., Jul. 1932, without Fukuyama's no., KPM-NA0105503 – Fig. 1C).

Note: Masamune's handwriting on the small envelope reads “*Amitostigma yuukiana*, Shinchiku, Yuki, VII '32 leg H”.

4. *Aphyllorchis purpurea* Fukuy. in Bot. Mag. Tokyo **48**: 431 (1934).

TYPE: TAIWAN. Taihoku, Mt. Syo-agyoku-san [小阿玉山], prope Urai (N. Fukuyama 4121, Aug. 1933, formerly in Herb. Orch. Fuk.).

Materials in KPM: TAIWAN. Taihoku, Mt. Syo-agyoku-san, prope Urai (N. Fukuyama s.n., Aug. 1933, KPM-NA0105504 – Fig. 1D & KPM-NA0105505).

Note: The letter “T” is added on the label.

5. *Bulbophyllum rryanum* Fukuy. in Bot. Mag. Tokyo **49**: 668 (1935).

TYPE: TAIWAN. Taihoku, Mt. Syo-agyoku-san [小阿玉山] (K. Segawa et N. Fukuyama 4709, Jan. 17 1935, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Taihoku, Mt. Syo-agyoku-san (K. Segawa et N. Fukuyama s.n., Jan. 17 1935, without Fukuyama's no., KPM-NA0105506 – Fig. 2A).

Note: Masamune's handwriting on the label is “*T. B. rryanum* Fuk T. Syo-Agyoku Jun. 17. '35 leg. Seg. et Fuk.”. One letter “T.” is enclosed in a circle.

6. *Bulbophyllum tokioi* Fukuy. f. *alboviride* Fukuy. in Bot. Mag. Tokyo **52**: 245 (1938).

TYPE: TAIWAN. Sintiku, prope Inoue [井上] (K. Segawa Jan. 1 1936, cult. and flowered in Apr. 1936, Fukuyama 6102, TAI).

Material in KPM: TAIWAN. Sintiku, prope

Inoue (Segawa Jul. 1 1936, Masamune's label without Fukuyama's no., KPM-NA0105507 – Fig. 2B).

Note: Handwriting on the small envelope is “B. tokioi Fuk. f. albobiride Fuk. Sintiku, Inoue VII, 1, 1936 leg. Segawa, Flowered in July”. This plant flowered in July, 1936, and does not correspond with the original description. However, as the original description was based on the cultivated plants, there is a possibility that the KPM specimen was derived from the type stocks.

7. *Calanthe actinomorpha* Fukuy. in Bot. Mag. Tokyo **49**: 668 (1935).

TYPE: TAIWAN. Taihoku, Mt. Syoagyoku-san [小阿玉山] (N. Fukuyama 4690, Jan. 17 1935, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Taihoku, Mt. Syoagyoku-san (N. Fukuyama s.n., Jan. 17 1935, KPM-NA0105508 – Fig. 2C).

Note: The words “sp. nov.” was written on the label by Fukuyama himself and the letter “G” was added on it.

8. *Calanthe amamiana* Fukuy. in Acta Phytotax. Geobot. **14**: 134 (1952).

TYPE: RYUKYUS. Ins. Amami-Oshima (T. Kamiya, Apr. 1 1910, Fukuyama 7443, Holotype in TAI).

Material in KPM: RYUKYUS. Ins. Amami-Oshima (T. Kamiya, Apr. 1910, without Fukuyama's no., KPM-NA0105509 – Fig. 2D).

Note: The word “Typ.” is added on the Masamune's label on the front cover.

9. *Calanthe discolor* Lindl. var. ***kanashiroi*** Fukuy. in Trans. Nat. Hist. Soc. Formosa **32**: 271 (1942).

TYPE: RYUKYUS. Okinawa, Mt. Katuudake (T. Kanashiro, Feb. 26 1939, Fukuyama 7406, Holotype in TAI).

Materials in KPM: RYUKYUS. Okinawa, Mt. Katuudake (T. Kanashiro, Feb. 26, 1939, Fukuyama 7406, KPM-NA0105510 – Fig. 3A, KPM-NA0105511 & KPM-NA0105512).

Note: The letter “T” is added on the label.
10. *Calanthe dolichopoda* Fukuy. in Bot. Mag. Tokyo **49**: 296 (1935).

TYPE: TAIWAN. Taihoku, Mt. Daitoozan [大桶山] prope Shinten [新店] (N. Fukuyama 4536, Nov. 10 1933, Holotype formerly in Herb. Orch. Fuk. now in KPM, KPM-NA0105513 – Fig. 3B).

11. *Calanthe kooshunensis* Fukuy. in Ann. Rep. Bot. Gard. Taihoku Imp. Univ. **3**: 85 (1933).

TYPE: TAIWAN. Takao, Mt. Manritokuzan, prope Kooshun [恒春] (N. Fukuyama 4101, Jan. 1 1932, Holotype formerly in Herb. Orch. Fuk. now in KPM, KPM-NA0105514 – Fig. 3C).

12. *Calanthe nigropuncticulata* Fukuy. in Bot. Mag. Tokyo **48**: 437 (1934).

TYPE: TAIWAN. Shinchiku [新竹], Mt. Higashi-sensui-zan [東洗水山] (N. Fukuyama 4133, Jul. 1932, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Shinchiku, Mt. Higashi-sensui-zan (N. Fukuyama s.n., Jul. 1932, KPM-NA0105515 – Fig. 3D).

13. *Calanthe pumila* Fukuy. in Bot. Mag. Tokyo **49**: 438 (1935).

TYPE: TAIWAN. Takao, Chipon-goe [知本越] (S. Sasaki, Oct. 10 1934, Fukuyama 4553, Holotype formerly in Herb. Orch. Fuk. now in KPM, KPM-NA0105516 – Fig. 4A).

14. *Cephalanthera alpicola* Fukuy. in Bot. Mag. Tokyo **52**: 242 (1938).

TYPE: TAIWAN. Kwarenko, Mt. Gokwanzan (K. Segawa June 16 1935, Fukuyama 5915, TAI).

Material in KPM: TAIWAN. Kwarenko, Mt. Gokwanzan [合歡山] (K. Segawa, June 16 1935, without Fukuyama's no., KPM-NA0105517 – Fig. 4B).

15. *Cheirostylis nemorosa* Fukuy. in Bot. Mag. Tokyo **49**: 760 (1935).

TYPE: TAIWAN. Taihoku, prope Agyoku [阿玉] (T. Suzuki Mar. 29 1932, Fukuyama's no. 4723, Holotype formerly in Herb. Orch.

Fuk. now in KPM, KPM-NA0105518 – Fig. 4C; KPM-NA0105519).

16. *Cirrhopetalum autumnale* Fukuy. in Bot. Mag. Tokyo **49**: 760 (1935).

TYPE: TAIWAN. Takao, prope Botan-sha [牡丹社] (N. Fukuyama 4722, May 30 1934, Holotype formerly in Herb. Orch. Fuk. now in KPM-NA0105521 – Fig. 4D).

Note: The letter “T” is added on the label.

17. *Cirrhopetalum taiwanense* Fukuy. in Bot. Mag. Tokyo **49**: 761 (1935).

TYPE: TAIWAN. Takao, prope Botan-sha [牡丹社] (K. Segawa Feb. 1934, cult. and flowered in Mar. 1935, Fukuyama’s no. 4731, Holotype in TAI).

Material in KPM: TAIWAN. Takao (K. Segawa without date, without Fukuyama’s no., KPM-NA0105522 – Fig. 5A).

Note: The words “sp. nov.” is written on the label by Fukuyama himself, and this specimen is inferred as an isotype.

18. *Corymborchis sakisimensis* Fukuy. in Trans. Nat. Hist. Soc. Formosa **32**: 267 (1942) and in Acta Phytotax. Geobot. **24**: 125 (1952).

TYPE: RYUKYUS. Ins. Ishigaki, Kapira et Hukai (N. Fukuyama 7241 in T. N. H. S. F. and 7341 in A. P. G., Sep. 28 1938, TAI).

Material in KPM: RYUKYUS. Ins. Ishigaki, Kapira et Hukai (N. Fukuyama s.n., Sep. 28 1938, KPM-NA0105523 – Fig. 5B, KPM-NA0105524, KPM-NA0105525, KPM-NA0105526, KPM-NA0105527 & KPM-NA0105528).

Note: This species was described twice. Collection number 7241 in the original description in T. N. H. S. F. may be a misprint of no. 7341, because no. 7341 is written in the Fukuyama’s original manuscript and A. P. G.

19. *Cymbidium aspidistrifolium* Fukuy. in Bot. Mag. Tokyo **48**: 438, figs. 2 & 3 (1934).

TYPE: TAIWAN. Taihoku, Mt. Syo-agyoku-san [小阿玉山] (N. Fukuyama 4137, Oct. 1933, Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Taihoku, Mt.

Syo-agyoku-san (N. Fukuyama s.n., Aug. 1933, KPM-NA0105605 – Fig. 5C).

Note: This specimen resembles the plants of fig. 2 in the original description, and has the letter “ta” (in Japanese letter) suggesting type, although collection dates are different. Several orchid specimens were cultivated until flowering; thus, some differences between the original description and the label may have caused from the differences among collection date, flowering date, and pressed date.

20. *Cymbidium gracillimum* Fukuy. in Trans. Nat. Hist. Soc. Formosa **22**: 413, Figs. 1 & 2 (1932).

TYPE: TAIWAN. Sintiku [新竹], Mt. Tyotui-zan (N. Fukuyama 3220, Jan. 1931, formerly in Herb. Orch. Fuk.).

Materials in KPM: TAIWAN. Sintiku, Mt. Tyotui-zan (N. Fukuyama s.n., Jan. 1931, Holotype, KPM-NA0105529 – Fig. 5D; KPM-NA0105530).

Note: The specimen of KPM-NA0105529 corresponds with Fig. 2 in the original description, although collection number is lost, and will be treated as holotype. The letter “G” is added on the label of KPM-NA0105529.

21. *Cystopus humilis* Fukuy. in Bot. Mag. Tokyo **48**: 307 (1934).

TYPE: TAIWAN. Shinchiku, inter Sensui et Kaminoshima [上の島温泉], prope Taiko [大湖] (N. Fukuyama 3986, Jul. 1932, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Shinchiku, inter Sensui et Kaminoshima, prope Taiko (N. Fukuyama s.n., Jul. 1933, KPM-NA0105531 – Fig. 6A).

Note: The word “sp. nov.” is written on the label. The difference observed in the collection date between the original description and the label may have caused from a mistake.

22. *Dicerostylis nipponica* Fukuy. in Bot. Mag. Tokyo **50**: 19 (1936).

TYPE: TAIWAN. Ins. Koto-syo [紅頭嶼], Mt. Koto-zan [紅頭山] (N. Fukuyama 4793,

Jul. 17 1934, formerly in Herb. Orch. Fuk.).

Materials in KPM: TAIWAN. Ins. Kotosyo, Mt. Koto-zan (N. Fukuyama s.n., Jul. 17 1934, KPM-NA0105532 – Fig. 6B, KPM-NA0105533, KPM-NA0105534 & KPM-NA0105535).

Note: The word “sp. nov.” by Fukuyama himself, and the letter “T” on the label of KPM-NA0105532.

23. *Dipodium freycinetioides* Fukuy. in Trans. Nat. Hist. Soc. Formosa **27**: 266 (1937).

TYPE: MICRONESIA. Ins. Palau, Aimiriik (R. Kanehira 1964, flowered in Aug. 1932, herbarium not shown in the original description).

Material in KPM: MICRONESIA. Ins. Palau, Aimiriik (R. Kanehira 1985, Aug. 1932, KPM-NA0105606 – Fig. 6C).

24. *Disperis orientalis* Fukuy. in Bot. Mag. Tokyo **50**: 17 (1936).

TYPE: TAIWAN. Ins. Koto-syo [紅頭嶼], Mt. Sadaki-rei (N. Fukuyama 4839, Jul. 25 1935, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Ins. Kotosyo, Mt. Sadaki-rei (N. Fukuyama s.n., Jul. 25 1935, KPM-NA0105536 – Fig. 6D).

Note: The word “sp. nov.” by Fukuyama, and the letter “T” on the label.

25. *Epipactis ohwii* Fukuy. in Bot. Mag. Tokyo **48**: 298 (1934).

TYPE: TAIWAN. Taihoku, in Mt. Nanko-taizan [南湖大山], inter Bunakkei et Piyanan-anbu (N. Fukuyama 3973, July 21 1933, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Taihoku, in Mt. Nanko-taizan, inter Bunakkei et Piyanan-anbu (N. Fukuyama (sub. H), July 21 1933, Masamune’s handwriting without Fukuyama’s no., KPM-NA0105537 – Fig. 7A).

Note: Handwriting reads “*Epipactis ohwii* Nankotaizan 8000 ped. alt. Bunake – anbu VII 21 ’33 leg. H”.

26. *Eulophia segawae* Fukuy. in Bot. Mag. Tokyo **48**: 437 (1934).

TYPE: TAIWAN. Taitoo [台東], Riran-shichoo, Tokobanryo [徳班寮] (K. Segawa s.n., Feb. 15 1933, Holotype in Herb. Segawae).

Material in KPM: TAIWAN. Taitoo, Riran-shichoo, Tokobanryo (K. Segawa s.n., without date, Masamune’s handwriting, KPM-NA0105538 – Fig. 7B).

Note: Handwritings on the small envelope reads “T, Segawa, and Toku-ban-ryo (in Chinese characters [徳班寮])”.

27. *Gastrochilus quercetorum* Fukuy. in Bot. Mag. Tokyo **50**: 16 (1936).

TYPE: TAIWAN. Takao, Naihonroku-goe, Hudi-eda [藤枝] (N. Fukuyama 4720, Oct. 24 1934, Holotype formerly in Herb. Orch. Fuk. now in KPM, KPM-NA0105539, label only, specimen destroyed).

Another material in KPM: TAIWAN. Takao, Hudieda (N. Fukuyama s.n., Oct. 24 1934, KPM-NA0105540 – Fig. 7C).

28. *Gastrochilus rupestris* Fukuy. in Bot. Mag. Tokyo **49**: 763 (1935).

TYPE: TAIWAN. Sintiku, Mt. Rito-san [李棟山] (N. Fukuyama 4716, Jan. 7 1932, Holotype formerly in Herb. Orch. Fuk. now in KPM, KPM-NA0105541 – Fig. 7D).

Note: Upper half of number is cut off, but can be guessed as no. 4716, and the word “sp. nov.” written by Fukuyama indicate this specimen is the holotype specimen.

29. *Gastrodia lutea* Fukuy. in Bot. Mag. Tokyo **49**: 666 (1935).

TYPE: TAIWAN. Ins. Kotosyo [紅頭嶼], Mt. Omori-yama (N. Fukuyama 4681, Jul. 3 1934, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Ins. Kotosyo, Mt. Omori-yama (N. Fukuyama s.n., Jul. 3 1934, KPM-NA0105542 – Fig. 8A).

Note: The word “sp. nov.” by Fukuyama himself on the label.

30. *Goodyera yamiana* Fukuy. in Bot. Mag. Tokyo **50**: 18 (1936).

TYPE: TAIWAN. Ins. Koto-syo [紅頭嶼], Sadaki-rei (N. Fukuyama 4804, Oct. 28 1934,

formerly in Herb. Orch. Fuk.).

Materials in KPM: TAIWAN. Ins. Kotosyo, Sadaki-rei (N. Fukuyama s.n., Oct. 28 1934, KPM-NA0105543 – Fig. 8B, KPM-NA0105544 & KPM-NA0105545).

Note: These specimens have the word “sp. nov.” by Fukuyama himself on each label.

31. *Habenaria longiracema* Fukuy. in Bot. Mag. Tokyo **49**: 758 (1935).

TYPE: TAIWAN. Takao, Tyosyu-gun, Kinariman (K. Segawa, Oct. 20 1934, Fukuyama 4725, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Takao, Tyosyu-gun [潮州郡], Kinariman (K. Segawa, Oct. 20 1934, Segawa's label without no., KPM-NA0105546 – Fig. 8C).

Note: K. Segawa is noting in the Japanese letter attached to this specimen that this specimen is very different from the type specimen in general appearance.

32. *Herminium pusillum* Ohwi & Fukuy. in Bot. Mag. Tokyo **48**: 430 (1934).

TYPE: TAIWAN. Taichu, Mt. Niitakayama [新高山] inter Shuzan et Niitaka-chuuzaisho (J. Ohwi Jul. 1933, Fukuyama's no. 4119, formerly in Herb. Orch. Fuk.).

Materials in KPM and KYO: TAIWAN. Taichu, Mt. Niitakayama inter Shuzan et Niitaka-chuuzaisho (J. Ohwi, Jul. 1933, no. 4119 (added on the label with pencil), Isotype, KYO; J. Ohwi Jul. 1933, Masamune's handwriting without Fukuyama's no., KPM-NA0105548 – Fig. 8D).

Note: Handwriting on the small envelope of KPM specimen reads “*Herminium pusillum* Ohw. et Fuk. Niitaka inter Suyuzan et Niitakatyu-zaisho VII '33 leg. Ohwi”.

33. *Hetaeria tokioi* Fukuy. in Bot. Mag. Tokyo **48**: 434 (1934).

TYPE: TAIWAN. Taihoku, Mt. Syogyoku-san [小阿玉山] prope Urai (Suzuki-Tokio Sept. 1932, Fukuyama 4128, Holotype formerly in Herb. Orch. Fuk. now in KPM, KPM-NA0105549 – Fig. 9A).

Note: The letter “T” is added on the label.

34. *Ione bifurcatoflorens* Fukuy. in Bot. Mag. Tokyo **49**: 440 (1935).

TYPE: TAIWAN. Takao, Naihonroku-goe prope Fujieda [藤枝] (N. Fukuyama Oct. 21 1934, 4560, Holotype formerly in Herb. Orch. Fuk. now in KPM, KPM-NA0105550 – Fig. 9B; KPM-NA0105551).

Note: The word “sp. nov.” and the letter of “T” on the label.

35. *Lecanorchis cerina* Fukuy. in Bot. Mag. Tokyo **49**: 291 (1935).

TYPE: TAIWAN. Taihoku, Mt. Daitoozan [大桶山], prope Shinten [新店] (N. Fukuyama 4534, Apr. 11 1934, Holotype formerly in Herb. Orch. Fuk. now in KPM, KPM-NA0105552 – Fig. 9C).

Note: The letter “T” is added on the label.

36. *Lecanorchis flavicans* Fukuy. in Trans. Nat. Hist. Soc. Formosa **32**: 241 (1942) and in Acta Phytotax. Geobot. **14**: 123 (1952).

TYPE: RYUKYUS. Ins. Iriomote, Nakara-gawa (N. Fukuyama 7120, May 30 1938, TAI).

Materials in KPM: RYUKYUS. Ins. Iriomote, Nakara-gawa (N. Fukuyama s.n., May 30 1938, KPM-NA0105553 – Fig. 9D, KPM-NA0105554 & KPM-NA0105555).

Note: The letter “T” is added on the label.

37. *Lecanorchis oligotricha* Fukuy. in Trans. Nat. Hist. Soc. Formosa **32**: 242 (1942) and in Acta Phytotax. Geobot. **14**: 124 (1952).

TYPE: RYUKYUS. Ins. Iriomote, Tedo (N. Fukuyama 7127, Jun. 4 1938, TAI).

Material in KPM: RYUKYUS. Ins. Iriomote, Urauchi-gawa (N. Fukuyama s.n., Jun. 5 1938, KPM-NA0105607 – Fig. 10A).

Note: The specimen corresponds with the isotype specimen other than the holotype in the original description, although the collection number is lost.

38. *Liparis laurisilvatica* Fukuy. in Ann. Rep. Bot. Gard. Taihoku Imp. Univ. **3**: 83 (1933).

TYPE: TAIWAN. Taihoku, Mt. Bonbongoe [梵梵越], inter Tamaru et Taishoo prope

Dakusui (N. Fukuyama 4101, Oct. 1933, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Taihoku, Mt. Bonbon-goe, inter Tamaru et Taishoo prope Dakusui (N. Fukuyama s.n., Oct. 1933, KPM-NA0105556 – Fig. 10B).

Note: The letter “T” is added on the label.

39. *Liparis nokoensis* Fukuy. in Bot. Mag. Tokyo **48**: 435 (1934).

TYPE: TAIWAN. Taichu, Nookoo-goe prope Nookoo [能高] (N. Fukuyama 4129, Jul. 1930, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Taichu, Nookoo-goe prope Nookoo (N. Fukuyama s.n., Jul. 1930, KPM-NA0105557 – Fig. 10C).

Note: The word “sp. nov.” and the letter “T” on the label.

40. *Liparis sootenzanensis* Fukuy. in Ann. Rep. Bot. Gard. Taihoku Imp. Univ. **3**: 84 (1933).

TYPE: TAIWAN. Shinchiku, Mt. Minami-sooten-zan [南插天山], prope Kappanzan (N. Fukuyama 4104, May 1933, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Shinchiku, Mt. Minamai-sooten-zan, prope Kappanzan (N. Fukuyama s.n., May 1933, KPM-NA0105558 – Fig. 10D).

41. *Listera deltoidea* Fukuy. in Bot. Mag. Tokyo **49**: 759 (1935).

TYPE: TAIWAN. Sintiku, Mt. Soten-zan (K. Segawa, Feb. 15 1935, Fukuyama 4730, TAI).

Material in KPM: TAIWAN. Sintiku, Mt. Soten-zan [插天山] (collector not written, Feb. 15 1935, Masamune’s handwriting without Fukuyama’s no., KPM-NA0105559 – Fig. 11A).

Note: Handwriting reads “*L. deltoidea* Fuk. Soten-zan (in Chinese characters [插天山] II 15, 35 T (in a circle))”.

42. *Listera macrantha* Fukuy. in Ann. Rep. Bot. Gard. Taihoku Imp. Univ. **3**: 86 (1933).

TYPE: TAIWAN. Taihoku, Mt. Nanko-

taizan [南湖大山] inter Kirittoi et Bunakkei (N. Fukuyama 4140, Jul. 1933, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Taihoku, Mt. Nanko-taizan inter Kirittoi et Bunakkei (N. Fukuyama s.n., Jul. 1933, KPM-NA0105560 – Fig. 11B).

Note: Fukuyama described three new species including this species and the following two species based on the collection from the same locality. Thus it is difficult to specify type materials without collection number. This specimen is identified by Fukuyama himself.

43. *Listera nankomontana* Fukuy. in Bot. Mag. Tokyo **49**: 291 (1935).

TYPE: TAIWAN. Taihoku, Mt. Nanko-taizan [南湖大山] inter Kirittoi et Hunakkei (without collector’s name, July 1933, Fukuyama 4139, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Taihoku, Mt. Nanko-taizan inter Kirittoi et Bunakkei (J. Ohwi, July 1933, without Fukuyama’s no., KPM-NA0105561 – Fig. 11C).

Note: This specimen is identified by Fukuyama himself and the letter “T” is added on the label.

44. *Listera taizanensis* Fukuy. in Bot. Mag. Tokyo **48**: 431 (1934).

TYPE: TAIWAN. Taihoku, Mt. Nanko-taizan [南湖大山], inter Kirittoi et Bunakkei (N. Fukuyama 4123, Jul. 1933, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Taihoku, Mt. Nanko-taizan, inter Kirittoi et Bunakkei (N. Fukuyama (sub. Huk.), July 1933, Masamune’s handwriting without Fukuyama’s no., KPM-NA0105562 – Fig. 11D).

Note: This specimen is identified by Masamune and the letter “T” is added on the small envelope.

45. *Luisia botanensis* Fukuy. in Bot. Mag. Tokyo **49**: 442 (1935).

TYPE: TAIWAN. Takao, prope Botan-ike [牡丹池] (N. Fukuyama 4550, May 29 1934,

formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Takao, prope Botan-ike (N. Fukuyama s.n., May 29 1934, KPM-NA0105563 – Fig. 12A).

Note: The word “sp. nov.” by Fukuyama himself and the letter “T” on the label.

46. *Luisia cordata* Fukuy. in Bot. Mag. Tokyo **48**: 306 (1934).

TYPE: TAIWAN. Taitoo, prope Daibu [大武] (N. Fukuyama 3984, collected in Jan. 1933 and flowered in May 1933, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Taitoo, prope Daibu (N. Fukuyama s.n., collected in Jan. 1933 and flowered in May 1933, KPM-NA0105564 – Fig. 12B).

Note: Although the collection number is lost, the description of this species corresponds with the specimen.

47. *Microtatochis hosokawae* Fukuy. in Bot. Mag. Tokyo **51**: 903 (1937).

TYPE: MICRONESIA. Ins. Ponape (T. Hosokawa, Aug. 22 1933, Fukuyama 5956, TAI).

Material in KPM: MICRONESIA. Ins. Ponape (T. Hosokawa, Aug. 22, 1933 without Fukuyama’s no., KPM-NA0105565 – Fig. 12C).

48. *Microstylis roohutuensis* Fukuy. in Trans. Nat. Hist. Soc. Formosa **22**: 415 (1932).

TYPE: TAIWAN. Takao, Mt. Roohutu-san prope Koosyun [恒春] (N. Fukuyama 3553, collected Dec. 31 1931 and cult. and flowered Oct. 1932, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Takao, Mt. Roohutu-San prope Koosyun (N. Fukuyama s.n., Dec. 31 1931, KPM-NA0105566 – Fig. 12D).

Note: The letter “T” on the label.

49. *Oberonia gigantea* Fukuy. in Bot. Mag. Tokyo **49**: 295 (1935).

TYPE: TAIWAN. Taihoku, Mt. Shooagyoku-san [小阿玉山] (N. Fukuyama 4543, collected in Aug. 1933 and flowered in Dec.

1933, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Taihoku, Mt. Shooagyoku-san (N. Fukuyama, Aug. 1933, Masamune’s handwritings without Fukuyama’s no., KPM-NA0105567 – Fig. 13A).

Note: The specimen was collected in Aug. 1933 and flowered in Feb. (1934) by handwriting possibly by Masamune. Thus, flowering periods are somewhat different between the description and specimen. It is most likely that the specimen in KPM is a part of type stocks cultivated at the Taihoku Botanical Garden.

50. *Orchis kunihikoana* Masamune & Fukuy. in Bot. Mag. Tokyo **49**: 663 (1935).

TYPE: TAIWAN. Taityu, Mt. Taisuikutusan [大水屈山] (D. Orimoto July 1934, Fukuyama 4704, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Taityu, Mt. Taisuikutusan (D. Orimoto, July 1934, Masamune’s handwriting without Fukuyama’s no., KPM-NA0105568 – Fig. 13B & KPM-NA0105569).

Note: Masamune’s handwriting on the small envelope reads “*O. kunihikoana* var. *leucantha* M. & F., Taisuikutu, Jul. ’34, leg. D. Orimoto” and the letter “T” is added on it. Although “var. *leucantha*” is superfluous, this specimen seems holotype.

51. *Orchis taiwanensis* Fukuy. in Bot. Mag. Tokyo **49**: 290 (1935).

TYPE: TAIWAN. Karenkoo, Mt. Gookanzan [合歡山] (N. Fukuyama 4526, Jul. 1929, Holotype formerly in Herb. Orch. Fuk. now in KPM, KPM-NA0105570 – Fig. 13C).

52. *Oreorchis ohwii* Fukuy. in Bot. Mag. Tokyo **49**: 296 (1935).

TYPE: TAIWAN. Taihoku, Mt. Nanko-taizan (J. Ohwi, Jun. 1 1933, Fukuyama 4547, formerly in Herb. Orch. Fuk.).

Materials in KYO and KPM: TAIWAN. Taihoku, Mt. Nanko-taizan [南湖大山] (J. Ohwi, Jun. 1 1933, (Fukuyama’s) no. 4547 added on small envelope with pencil, Isotype, KYO; J. Ohwi, Jun. 1 1933, without Fuku-

yama's no., KPM-NA0105571 – Fig. 13D).

Note: The word “sp. nov.” on the label by Fukuyama.

53. *Phreatia kanehirae* Fukuy. in Trans. Nat. Hist. Soc. Formosa **28**: 1 (1938).

TYPE: MICRONESIA. Ins. Palau, Isl. Koror (R. Kanehira 6526A, fl. Aug. 1932, herbarium not shown in the original description).

Material in KPM: MICRONESIA. Ins. Palau, Isl. Koror (R. Kanehira (sub. Kan.), Aug. 1932, Masamune's handwriting without original label and collection no. KPM-NA0105609 – Fig. 14A).

Note: Handwriting on the small envelope reads “*Phreatia kanehirai* Fuk. Coral Island, Koror Aug. '32 Leg. Kan.”.

54. *Phreatia kotoinsularis* Fukuy. in Bot. Mag. Tokyo **50**: 23 (1936).

TYPE: TAIWAN. Ins. Koto-syo [紅頭嶼], Zitauikei (N. Fukuyama 4816, Aug. 3 1934, Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Ins. Koto-syo (N. Fukuyama (sub. Huk.), Aug. 3 1934, Masamune's handwriting without Fukuyama's no., KPM-NA0105572 – Fig. 14B).

Note: Handwriting on the small envelope reads “*P. kotoinsularis* F. Koto-syo Aug. 3 '34 leg. Huk.”.

55. *Phreatia taiwaniana* Fukuy. in Bot. Mag. Tokyo **49**: 441 (1935).

TYPE: TAIWAN. Taihoku, Mt. Bonbon-goe [梵梵越], inter Tamaru et Dakusui (N. Fukuyama 4520, Oct. 1932, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Taihoku, Mt. Bonbon-goe, inter Tamaru et Dakusui (N. Fukuyama (sub. H.), collected in Oct. 1933 and flowered in Apr., Masamune's handwriting without Fukuyama's no., KPM-NA0105573 – Fig. 14C).

Note: Handwriting on the label involves “Bonbongoe, inter Tamaru et Dakusui X 1932 (Flowered Apr.) Leg. H.”

56. *Platanthera transnokoensis* Ohwi & Fukuy. in Bot. Mag. Tokyo **48**: 297 (1934).

TYPE: TAIWAN. Taichu, Mt. Kiraishu-nampoo (J. Ohwi, June 1933, (Fukuyama's) no. 3971, formerly in Herb. Orch. Fuk.).

Materials in KYO and KPM: TAIWAN. Taichu, Nokogoe (J. Ohwi, June 13–15 1933, (Fukuyama's) no. 3971 added on the label with pencil, Isotype in KYO); without locality (J. Ohwi, June 1933 Fukuyama's label without no., KPM-NA0105615 – Fig. 14D).

Note: The letter “T” on the label.

57. *Pristiglottis integra* Fukuy. in Bot. Mag. Tokyo **50**: 20 (1936).

TYPE: TAIWAN. Ins. Koto-syo Mt. Kotozan (N. Fukuyama 4779, Aug. 3 1934, Herb. Orch. Fuk.).

Materials in KPM: TAIWAN. Ins. Koto-syo [紅頭嶼], Mt. Koto-zan [紅頭山] (N. Fukuyama s.n., Aug. 3 1934, KPM-NA0105574 – Fig. 15A & KPM-NA0105575).

Note: The word of “sp. nov.” by Fukuyama and the letter of “T” on the label.

58. *Robiquetia kusaiensis* Fukuy. in Trans. Nat. Hist. Soc. Formosa **24**: 101 (1939).

TYPE: MICRONESIA. Ins. Carolin. (Kusai) (T. Hosokawa, July 20 1938, Fukuyama's no. 7338, TAI).

Material in KPM: MICRONESIA. Ins. Carolin. (Kusai) (T. Hosokawa, July 20 1938, without Fukuyama's no., KPM-NA0105576 – Fig. 15B).

59. *Sarcanthus viridescens* Fukuy. in Bot. Mag. Tokyo **50**: 24 (1936).

TYPE: TAIWAN. Ins. Koto-syo [紅頭嶼] prope Imaururu (N. Fukuyama 4818, Jul. 7 1934, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Ins. Koto-syo prope Imaururu (N. Fukuyama s.n., Jul. 7 1934, KPM-NA0105577 – Fig. 15C).

Note: The word “sp. nov.” by Fukuyama and the letter of “T” on the label.

60. *Taeniophyllum complanatum* Fukuy. in Bot. Mag. Tokyo **49**: 443 (1935).

TYPE: TAIWAN. Takao, prope Botansha [牡丹社] (N. Fukuyama 4551, May 30 1934, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Takao, prope Botansha (N. Fukuyama s.n., May 30 1934, KPM-NA0105578 – Fig. 15D).

Note: The word “sp. nov.” by Fukuyama and the letter “T” on the label.

61. *Taeniophyllum crassipes* Fukuy. in Bot. Mag. Tokyo **52**: 247 (1938).

TYPE: TAIWAN. Sintiku, prope Inoue [井上] (N. Fukuyama 6396, collected Jan. 1 1936 and cult. and flowered in May 1936, TAI).

Material in KPM: TAIWAN. Sintiku, prope Inoue (N. Fukuyama s.n., Jan. 1 1936, KPM-NA0105579 – Fig. 16A & KPM-NA0105580).

62. *Tainia elliptica* Fukuy. in Bot. Mag. Tokyo **49**: 293 (1935).

TYPE: TAIWAN. Shinchiku, Nanga prope Chikutoo (N. Fukuyama 4540, Jan. 7 1932, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Shinchiku, Nanga prope Chikutoo [竹東] (N. Fukuyama s.n., Jan. 7 1932, KPM-NA0105581 – Fig. 16B; N. Fukuyama 4538, Jan. 7 1932, KPM-NA0105582).

Note: The words “sp. nov.” on the labels by Fukuyama.

63. *Tainia piyananensis* Fukuy. in Bot. Mag. Tokyo **49**: 294 (1935).

TYPE: TAIWAN. Taihoku, Piyanan-anbu [卑南鞍部] (N. Fukuyama 4148, without collection date in original description, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Taihoku, Piyanan-anbu (N. Fukuyama s.n., July 1930, KPM-NA0105583 – Fig. 16C & KPM-NA0105584).

Note: The word “sp. nov.” on the label by Fukuyama.

64. *Thelasis clausa* Fukuy. in Bot. Mag. Tokyo **49**: 440 (1935).

TYPE: TAIWAN. Karenkoo, Kenkai-

shichoo [研海支庁] (K. Segawa, Aug. 15 1934, Fukuyama 4562, formerly in Herb. Orch. Fuk.).

Material in KPM: TAIWAN. Karenkoo, Kenkai-shichoo (K. Segawa, Aug. 15 1934, without Fukuyama’s no., KPM-NA0105585 – Fig. 16D).

Note: The letter “T” is added on the label.

65. *Tipularia odorata* Fukuy. in Bot. Mag. Tokyo **52**: 243 (1938).

TYPE: TAIWAN. Taihoku, Mt. Nanko-taizan [南湖大山], inter Bunake et Kirittoi (N. Fukuyama 6114, without collection date in original description, TAI).

Material in KPM: TAIWAN. Taihoku, Mt. Nanko-taizan, inter Bunake et Kirittoi (N. Fukuyama s.n., Jul. 13 1937, KPM-NA0105586 – Fig. 17A).

Note: The letter “T” on the label.

66. *Zeuxine fluvida* Fukuy. in Ann. Rep. Bot. Gard. Taihoku Imp. Univ. **3**: 81 (1933).

TYPE: TAIWAN. Taitoo [台東], Riran-shichoo, Onsen (K. Segawa, Fukuyama 4112, Holotype formerly in Herb. Orch. Fuk. now in KPM, KPM-NA0105587 – Fig. 17B).

67. *Zeuxine odorata* Fukuy. in Bot. Mag. Tokyo **50**: 20 (1936).

TYPE: TAIWAN. Ins. Koto-syo [紅頭嶼], Mt. Koto-zan [紅頭山] (N. Fukuyama 4808, Aug. 3 1934, cult. and flowered in Apr. 1934, formerly in Herb. Orch. Fuk.).

Materials in KPM: TAIWAN. Ins. Koto-syo, Mt. Koto-zan (N. Fukuyama s.n., Aug. 3 1934, cult. and flowered in Apr. 1935, KPM-NA0105588 – Fig. 17C, KPM-NA0105589, KPM-NA0105590, KPM-NA0105591 & KPM-NA0105592).

Note: The word “sp. nov.” on the label by Fukuyama.

68. *Zeuxine rupicola* Fukuy. in Bot. Mag. Tokyo **49**: 292 (1935).

TYPE: TAIWAN. Taihoku, inter Chikushiko [竹子湖] et Shirin [士林] (N. Fukuyama 4600, Mar. 1934, formerly in Herb.

Orch. Fuk.).

Material in KPM: TAIWAN. Taihoku, inter Chikushiko et Shirin (N. Fukuyama s.n., Mar. 1934, KPM-NA0105593 – Fig. 17D).

Note: The word “spec. nov.” on the label by Fukuyama.

Masamune's Type Materials

1. *Apostasia nipponica* Masam. in J. Jpn. Bot. **11**: 46 (1935).

TYPE: JAPAN. Yakusima, Kurio (S. Suzuki without no. July 13 1933, Holotype in KPM, KPM-NA0105594 – Fig. 18A).

Note: This specimen corresponds completely with the photograph in the original description, although Fig. 18A is the mirror image of it, and the label on the front cover of the specimen corresponds with the original description. Thus we designated it as the holotype.

2. *Cheirostylis oligantha* Masam. & Fukuy. in Trans. Nat. Hist. Soc. Formosa **30**: 241 (1940).

TYPE: TAIWAN. Musha [霧社] (G. Masamune et K. Mori, Aug. 1 1939, no. 2220, TAI).

Material in KPM: TAIWAN. Musha (G. Masamune, K. Mori et Nakamura, Aug. 1 1939, without no., KPM-NA0105520 – Fig. 18B).

Note: This specimen may be one of type materials, although one member of collectors is omitted in the original description.

3. *Cryptostylis taiwaniana* Masam. in Trans. Nat. Hist. Soc. Formosa **23**: 208 (1933).

TYPE: TAIWAN. Nanninzan [南仁山] (Segawa, Mar. 21 1929, herbarium not shown in the original description).

Material in KPM: Nanninzan (Segawa, Mar. 21, 1929, KPM-NA0105595 – Fig. 18C).

Note: Handwriting on the small envelope reads “Takao Nanninzan (in Chinese characters [南仁山] Mar. 21 1929”.

4. *Listera shikokiana* Makino var. *alboatriata*

Masam. in Mem. Fac. Sci. Agr. Taihoku Imp. Univ. **4**: 576 (1934).

TYPE: JAPAN. Yakusima, Kosugi-dani (G. Masamune, Sep. 18 1923, herbarium not shown in the original description).

Material in KPM: JAPAN. Yakusima, Kosugi-dani (G. Masamune, Sep. 18 1923, KPM-NA0105596 – Fig. 18D).

Note: Handwriting reads “*Listera shikokiana* Mak. f. *alboatriata* Masam.”.

5. *Myrmechis tsukusiana* Masam. in Bot. Mag. Tokyo **43**: 250 (1929).

TYPE: JAPAN. Yakusima, Mt. Yaegatake (G. Masamune, July 1922, Holotype in TI).

Material in KPM: JAPAN. Yakusima, Mt. Yaegatake (G. Masamune, July 1922, Isotype, KPM-NA0105597 – Fig. 19A).

6. *Phalaenopsis riteiwanensis* Masam. in Trans. Nat. Hist. Soc. Formosa **24**: 213 (1934).

TYPE: TAIWAN. Syokotosyo [小紅頭嶼] (Segawa s.n., Apr. 1934, herbarium not shown in the original description).

Materials in KPM: TAIWAN. Syokotosyo (K. Segawa s.n., without date, cultivated, KPM-NA0105598 – Fig. 19B & KPM-NA0105599).

7. *Platanthera anboensis* Masam. in Sci. Rep. Kanazawa Univ. **9**: 120 (1964).

TYPE: JAPAN. Yakusima, Anbo (G. Masamune 12769, May 6 1961, KANA).

Materials in KPM: JAPAN. Yakusima, Anbo (G. Masamune 12769, May 6 1961, Isotype, KPM-NA0105600 – Fig. 19C & KPM-NA0105601).

8. *Sarcochilus segawai* Masam. in Trans. Nat. Hist. Soc. Formosa **24**: 212 (1934).

TYPE: TAIWAN. Sintiku, Taikogun [大湖郡], Mapiruri (Segawa s.n., Jul. 6 1933, herbarium not shown in the original description).

Material in KPM: TAIWAN. Sintiku, Taikogun, Mapiruri (Segawa s.n., Jul. 6 1933, KPM-NA0105603 – Fig. 19D & KPM-NA0105617).

9. *Thrixspermum sasaoi* Masam. in Trans.

Nat. Hist. Soc. Formosa **24**: 280 (1934).

TYPE: TAIWAN. Taityu, Horisya [埔里社] (G. Masamune, Mar. 22 1934, herbarium not shown in the original description).

Material in KPM: TAIWAN. Taityu, Horisya (collector not written, Mar. 22 1933, mistake of 1934? KPM-NA0105610 – Fig. 20A).

Note: Although collector's name is omitted, it means that the collector was Masamune himself. This specimen seems to be type specimen. A mistake in collection date seemed to have occurred in the course of printing or making label.

井上 健^a, 勝山輝男^b, 高橋秀男^b, 秋山 守^c: 福山伯明博士および正宗巖敬博士により記載され、最近再発見されたラン科植物のタイプ標本

正宗巖敬氏の所有していた標本は正宗氏の死後神奈川県立博物館に寄贈された。私たちは正宗氏の標本を整理する過程で、福山伯明氏のラン科のタイプ標本が多数含まれていることを見出した。福山氏は第二次大戦前から戦中にかけて台湾に在住し、台湾・琉球・ミクロネシアのランの新種を100種以上記載した。福山氏は第二次大戦直後の混乱の中で死亡した。福山氏のタイプ標本の多くは福山氏個人の標本庫に収蔵されており、混乱の中で失われたと考えられていた。正宗氏は福山氏の分類学の指導者であったので、福山氏の死後彼の標本を日本に持ち帰ったものと考えられる。タイプ標本を含む福山氏の標本は植物とラベルが切り離され、正宗氏の標本の台紙に貼り直した形跡があった。福山氏自身のラベルは無傷のものもあるが、大部分は福山氏の採集番号が切り取られていた。また、福山氏のラベル自体が紛失し、正宗氏によって記入されたと思われるやや不完全なノートが添えてあるものが少なからず見出された。福山氏の採集番号があるものは正基準標本とした。福

10. *Vanda amiensis* Masam. & Segawa in Trans. Nat. Hist. Soc. Formosa **24**: 212 (1934).

TYPE: TAIWAN. Kotosyo [紅頭嶼] (Segawa s.n., Apr. 1934, herbarium not shown in the original description).

Material in KPM: TAIWAN. Kotosyo (Segawa s.n., Apr. 1934, KPM-NA0105604 – Fig. 20B).

We appreciate Drs. Takashi Yamazaki, Hidetoshi Nagamasu, Yuichi Kadota, Chien-Chang Hsu, and Tsan-Piao Lin for valuable comments on earlier versions of this manuscript.

山氏のその他の標本はその存在を示すのみに留め、今回レクトタイプ標本の選定は行わないことにした。総計で福山氏の記載した68分類群のタイプに関係した標本について言及した。また、正宗氏が記載したランの10分類群のタイプに関係した標本も見出された。正宗氏の標本に関しても記載や写真などで正基準標本が特定される標本を除き、標本庫を明示していないタイプ標本はその存在を示すに留め、レクトタイプ標本の選定は今回行わなかった。原記載ではタイプ標本が台湾大学標本庫と明記されているが、台湾大学標本庫に存在の確認されない標本が多数存在するようである (Flora of Taiwan (1978) による)。今回再発見された標本のうち、該当する標本は台湾大学標本庫の求めがあれば移管する予定である。今回の報告をまとめるにあたり、貴重な意見を頂いた山崎 敬・永益英敏・門田裕一・許 建昌・林 讚標の各博士に謝意を述べたい。

(^a 信州大学理学部生物学科, ^b 神奈川県立生命の星・地球博物館, ^c 神奈川県綾瀬市)

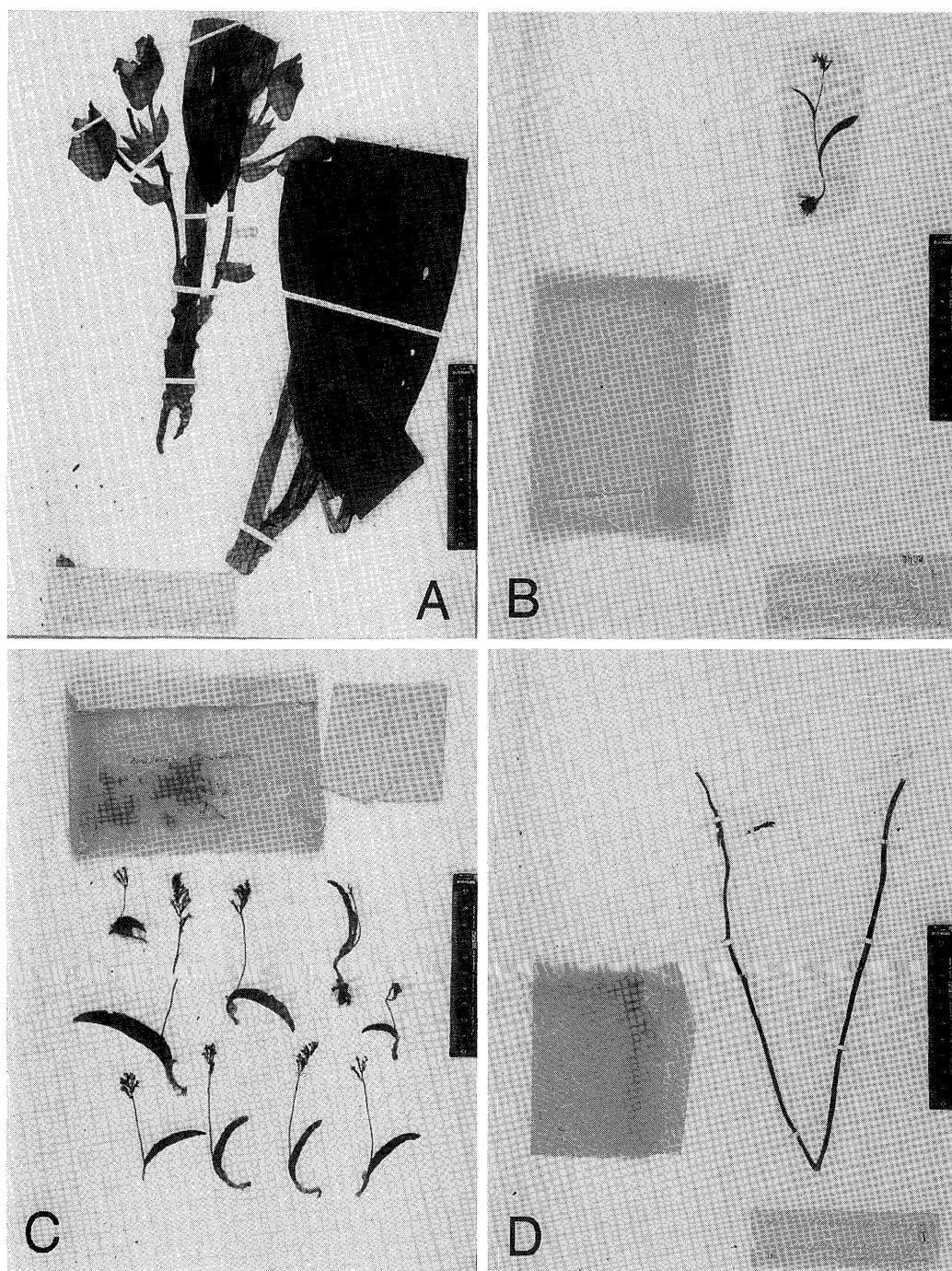


Fig. 1. A, *Acanthephippium pictum* Fukuy.; B, *Amitostigma alpestre* Fukuy. – Holotype; C, *Amitostigma yuukiana* Fukuy.; D, *Aphyllorchis purpurea* Fukuy.

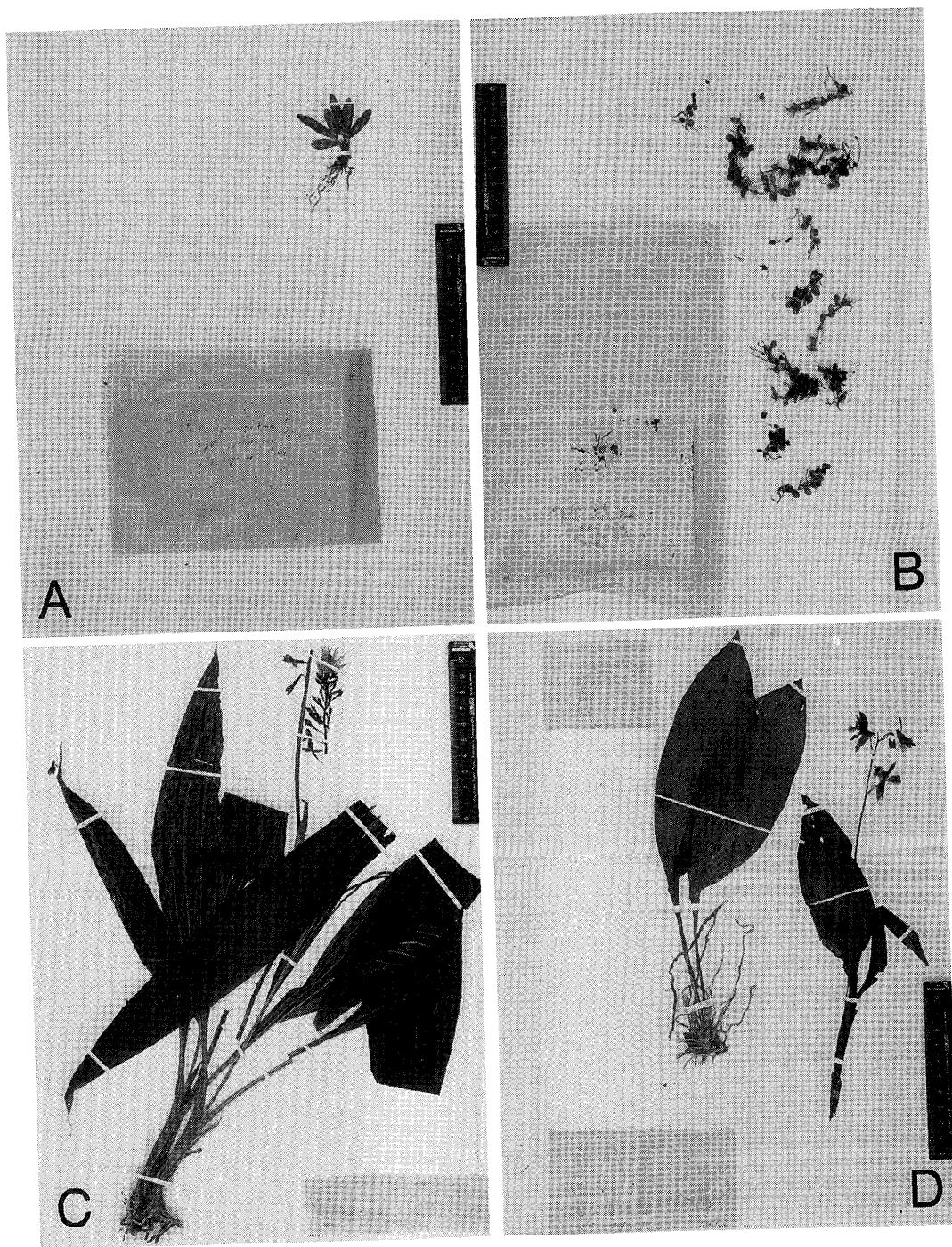


Fig. 2. A, *Bulbophyllum riyanum* Fukuy.; B, *Bulbophyllum tokioi* Fukuy. f. *alboviride* Fukuy.; C, *Calanthe actinomorpha* Fukuy.; D, *Calanthe amamiana* Fukuy.

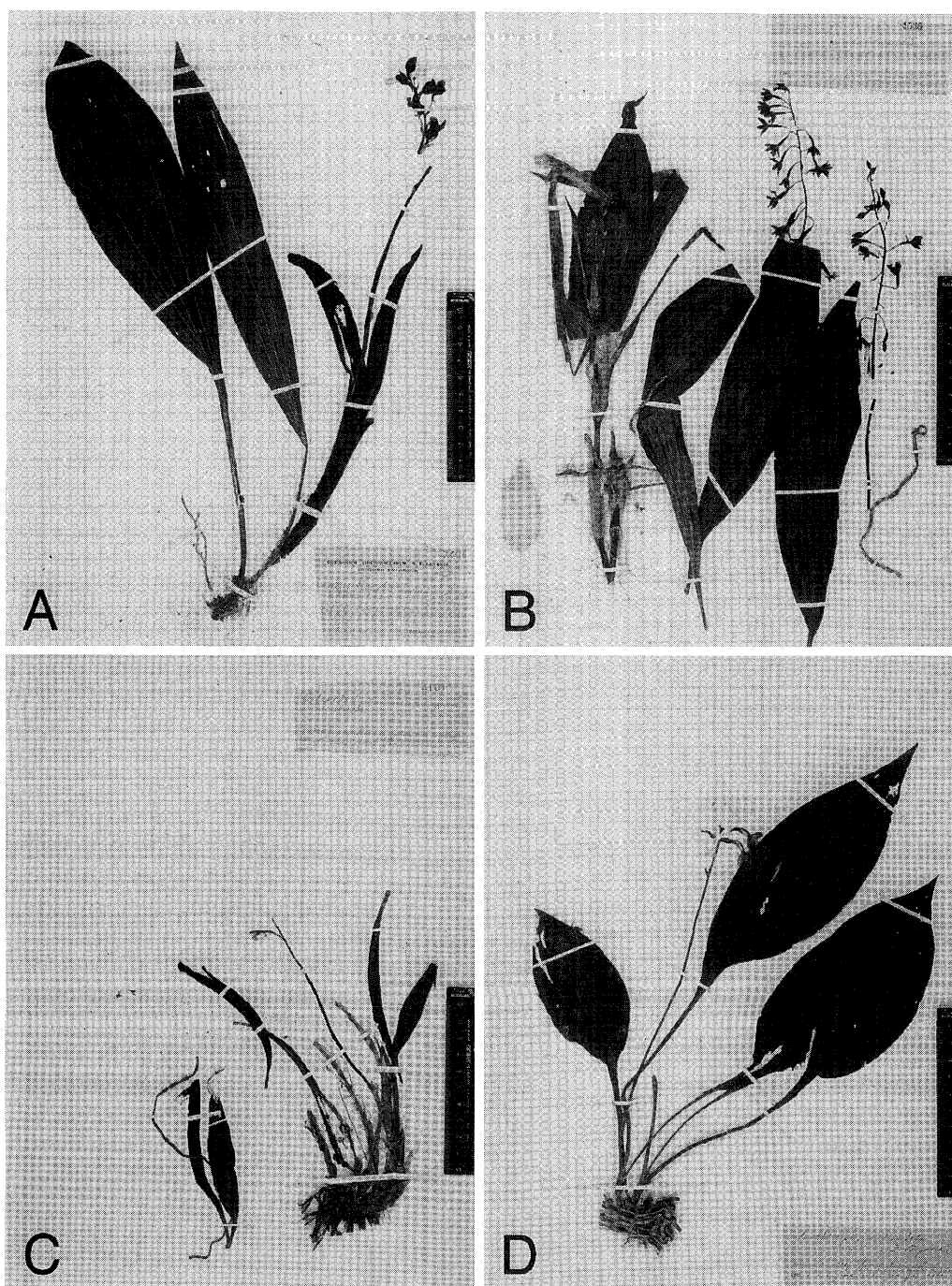


Fig. 3. A, *Calanthe discolor* Lindl. var. *kanashiroi* Fukuy.; B, *Calanthe dolichopoda* Fukuy. – Holotype; C, *Calanthe kooshunensis* Fukuy. – Holotype; D, *Calanthe nigropunctulata* Fukuy.

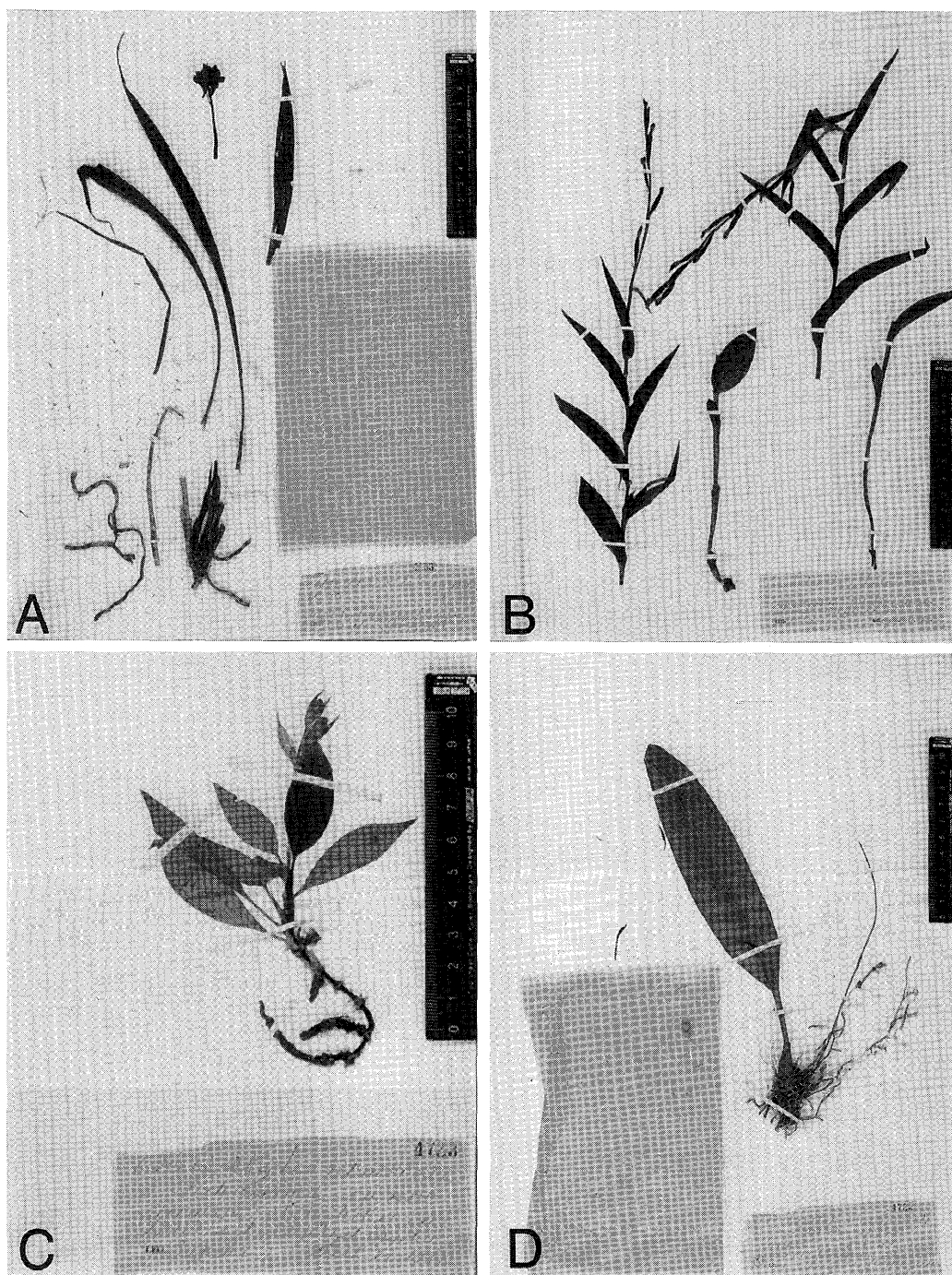


Fig. 4. A, *Calanthe pumila* Fukuy. - Holotype; B, *Cephalanthera alpicola* Fukuy.; C, *Cheirostylis nemorosa* Fukuy. - Holotype; D, *Cirrhopetalum autumnale* Fukuy. - Holotype.

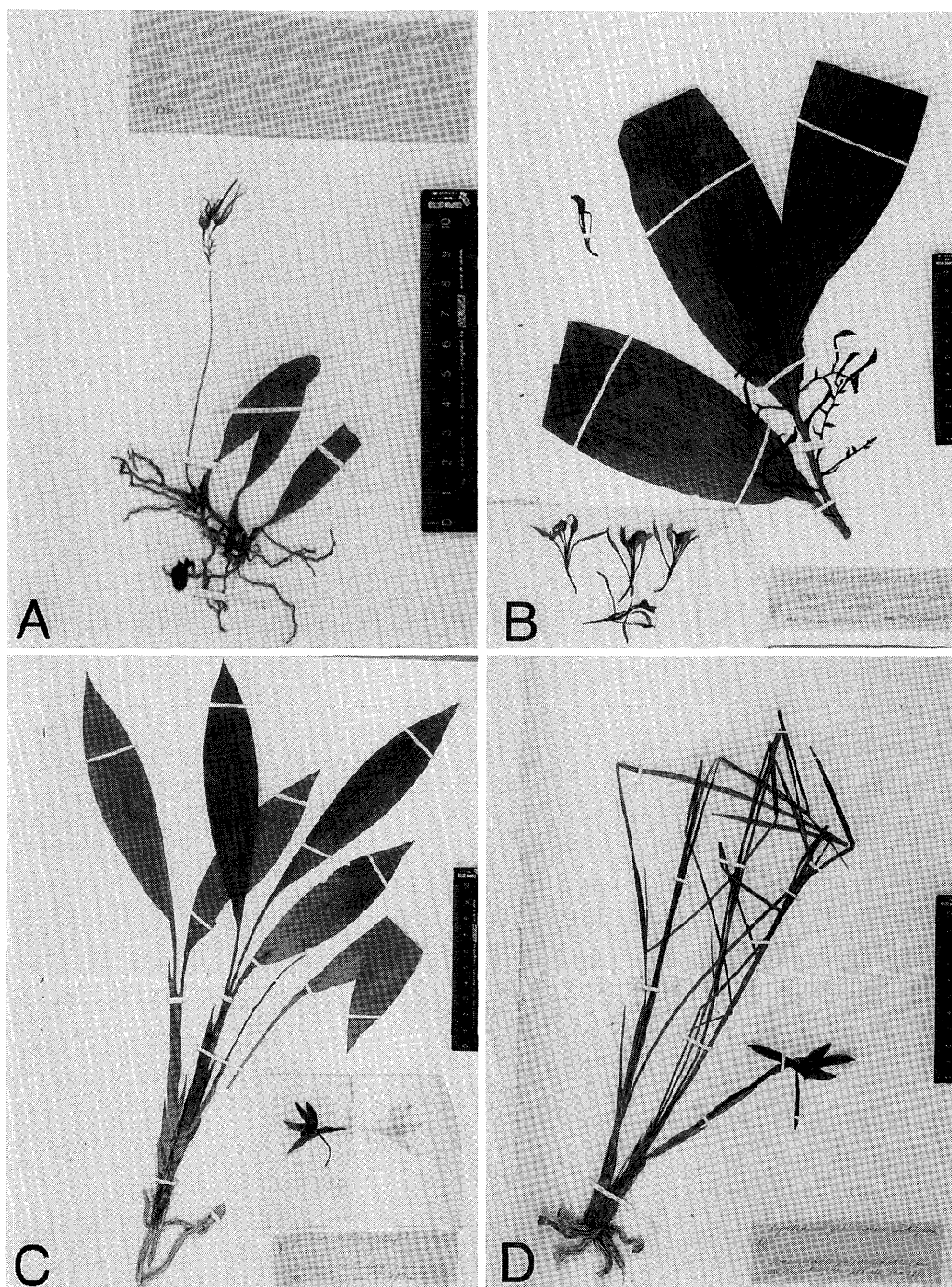


Fig. 5. A, *Cirrhopetalum taiwanense* Fukuy.; B, *Corymborchis sakisimensis* Fukuy.; C, *Cymbidium aspidistrifolium* Fukuy.; D, *Cymbidium gracillimum* Fukuy. – Holotype.

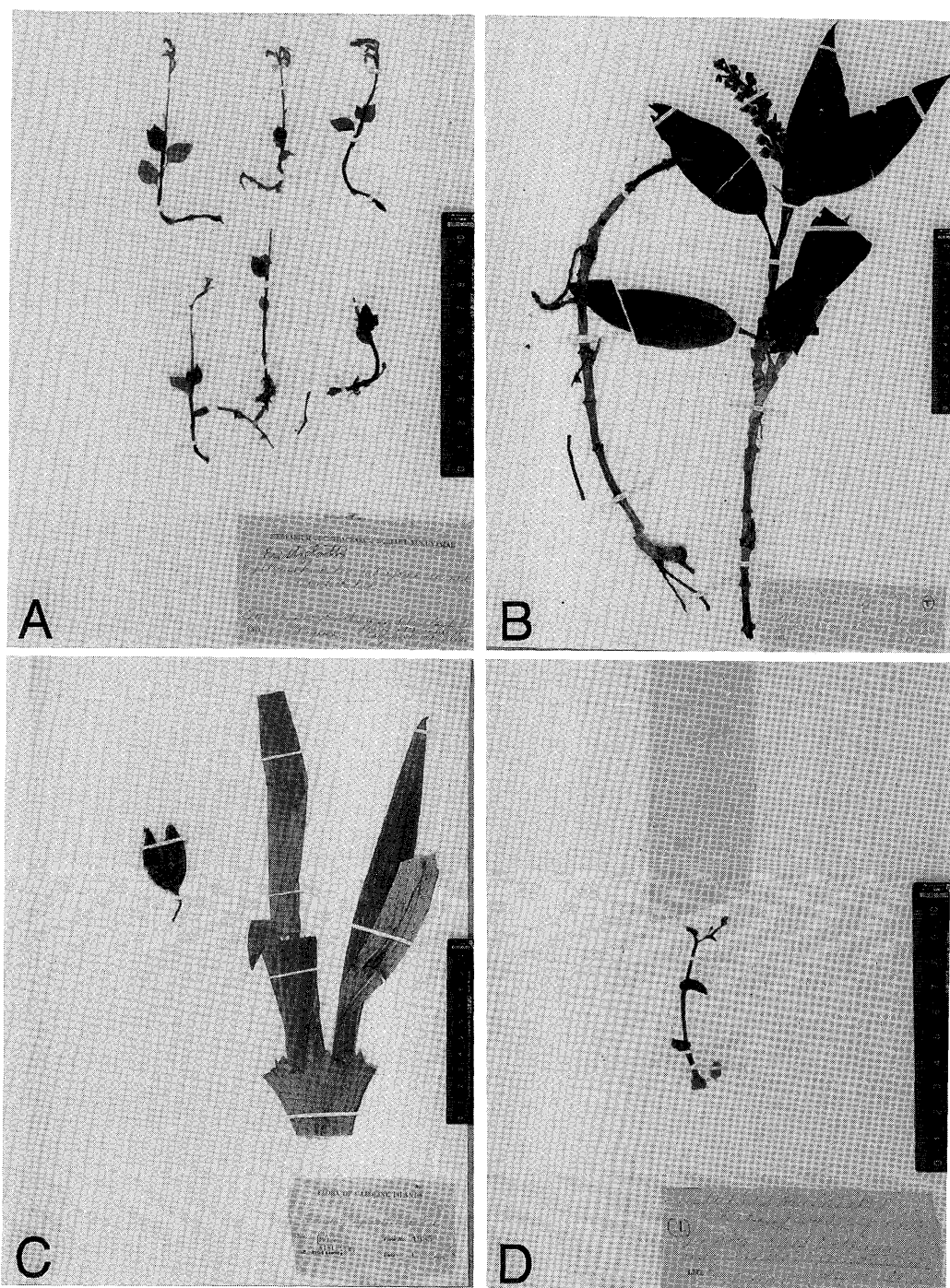


Fig. 6. A, *Cystopus humilis* Fukuy.; B, *Dicerostylis nipponica* Fukuy.; C, *Dipodium freycinetioides* Fukuy.; D, *Disperis orientalis* Fukuy.

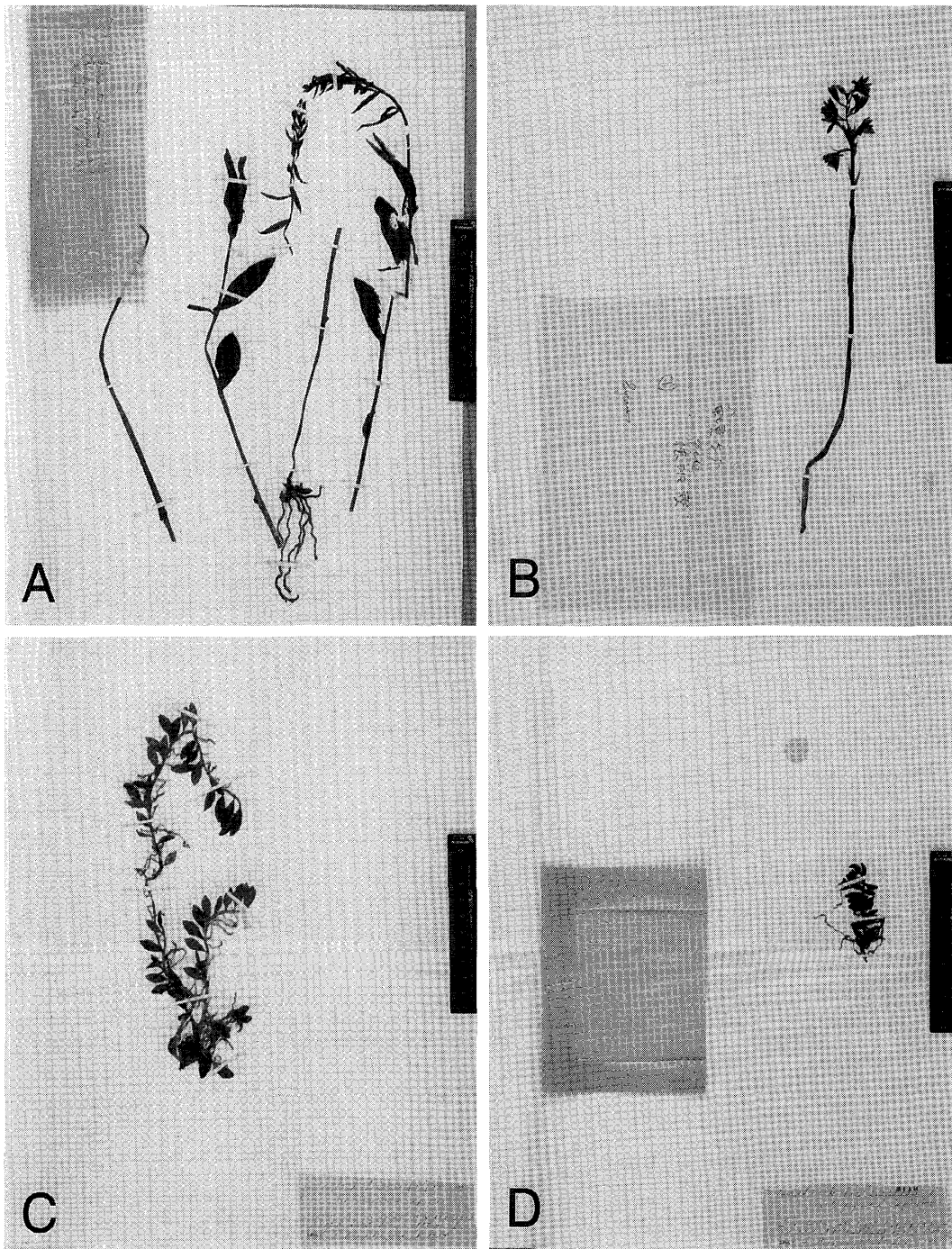


Fig. 7. A, *Epipactis ohwii* Fukuy.; B, *Eulophia segawae* Fukuy.; C, *Gastrochilus quercetorum* Fukuy. - Holotype; D, *Gastrochilus rupestris* Fukuy. - Holotype.

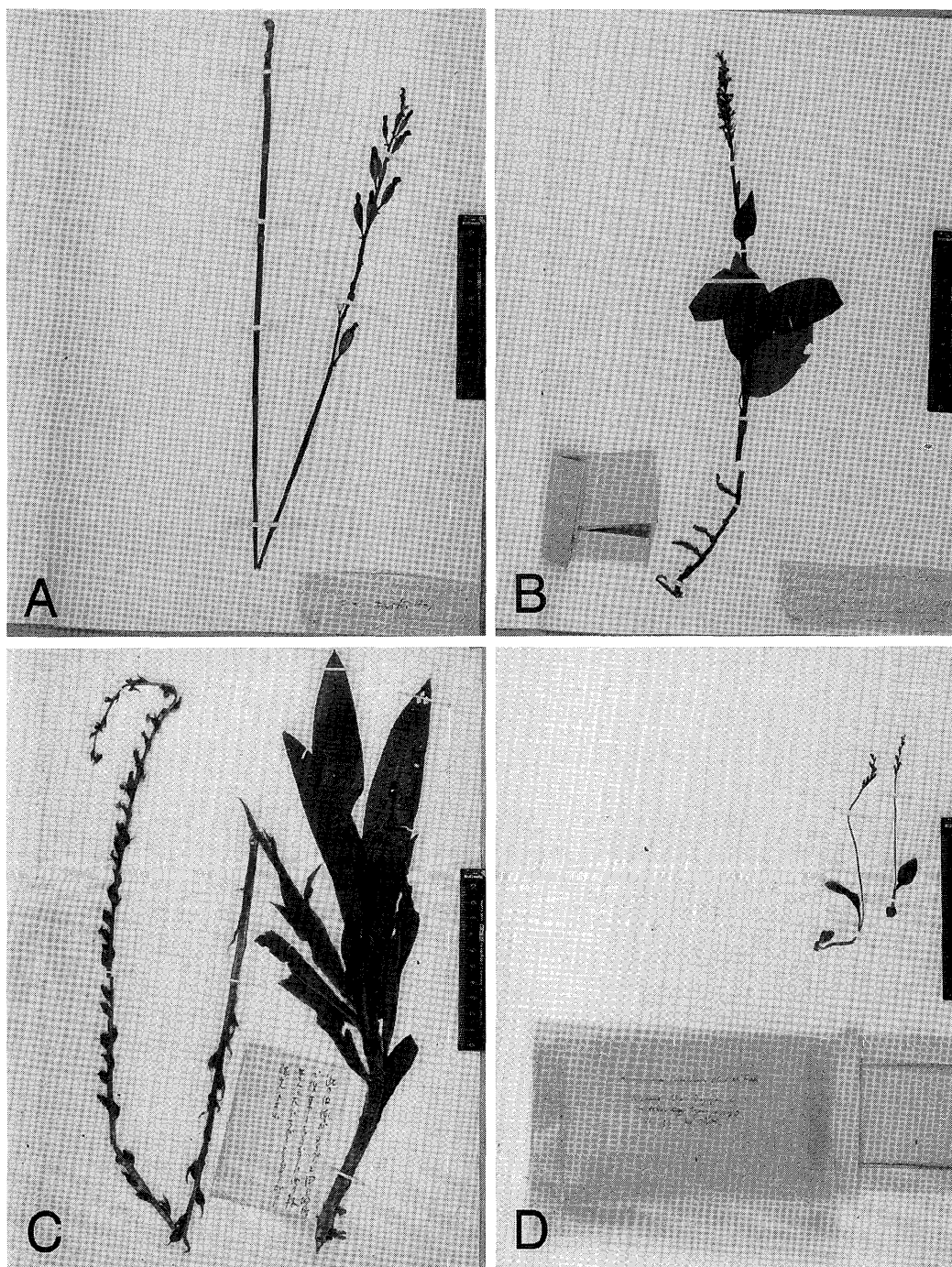


Fig. 8. A, *Gastrodia lutea* Fukuy.; B, *Goodyera yamiana* Fukuy.; C, *Habenaria longiracema* Fukuy.; D, *Herminium pusillum* Ohwi & Fukuy.

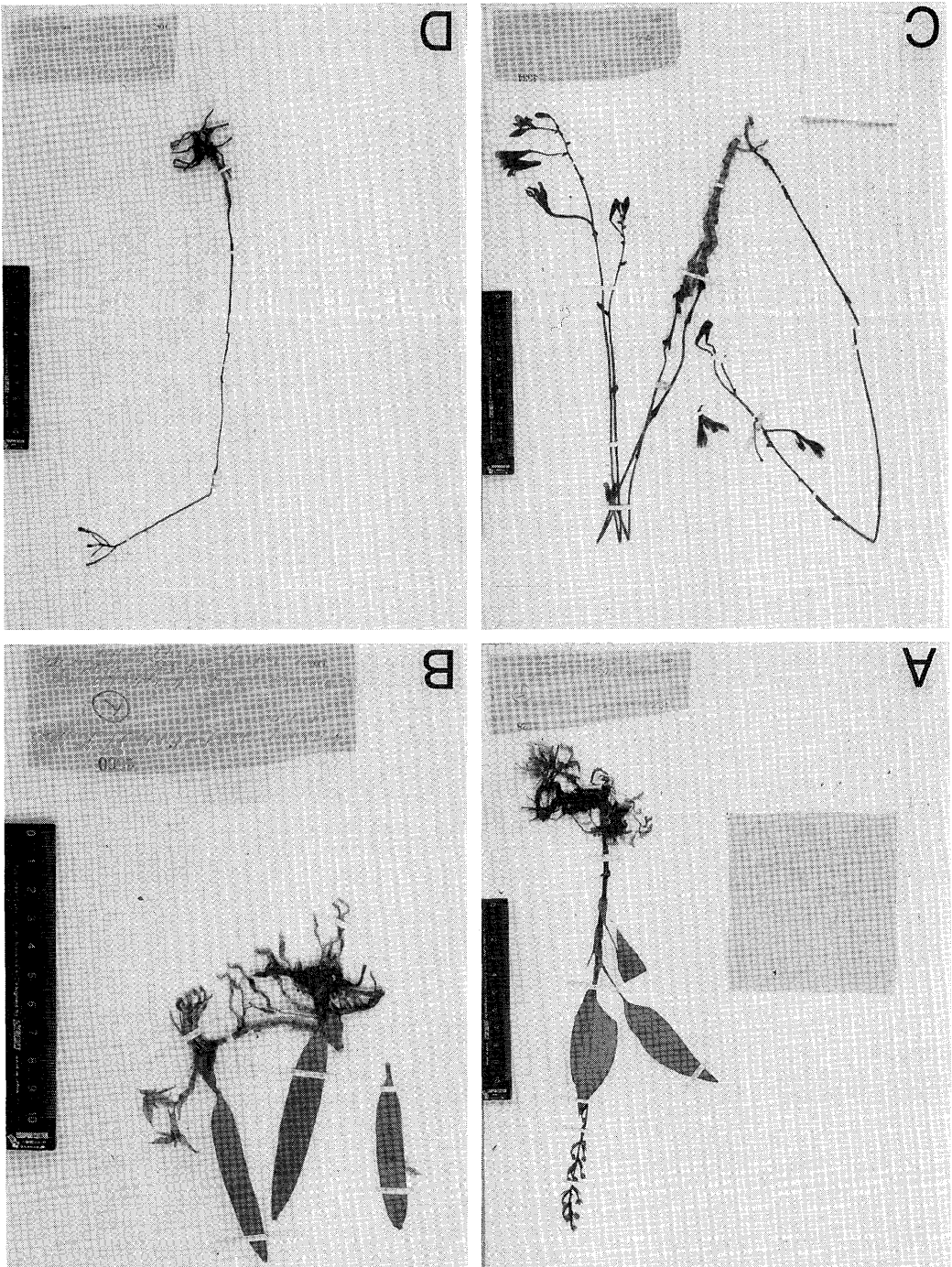


Fig. 9. A, *Hetaerota tokioi* Fukuy.; B, *Lone bifurcataflorens* Fukuy.; C, *Lecanorchis flavicans* Fukuy. – Holotype; D, *Lecanorchis flavicans* Fukuy.

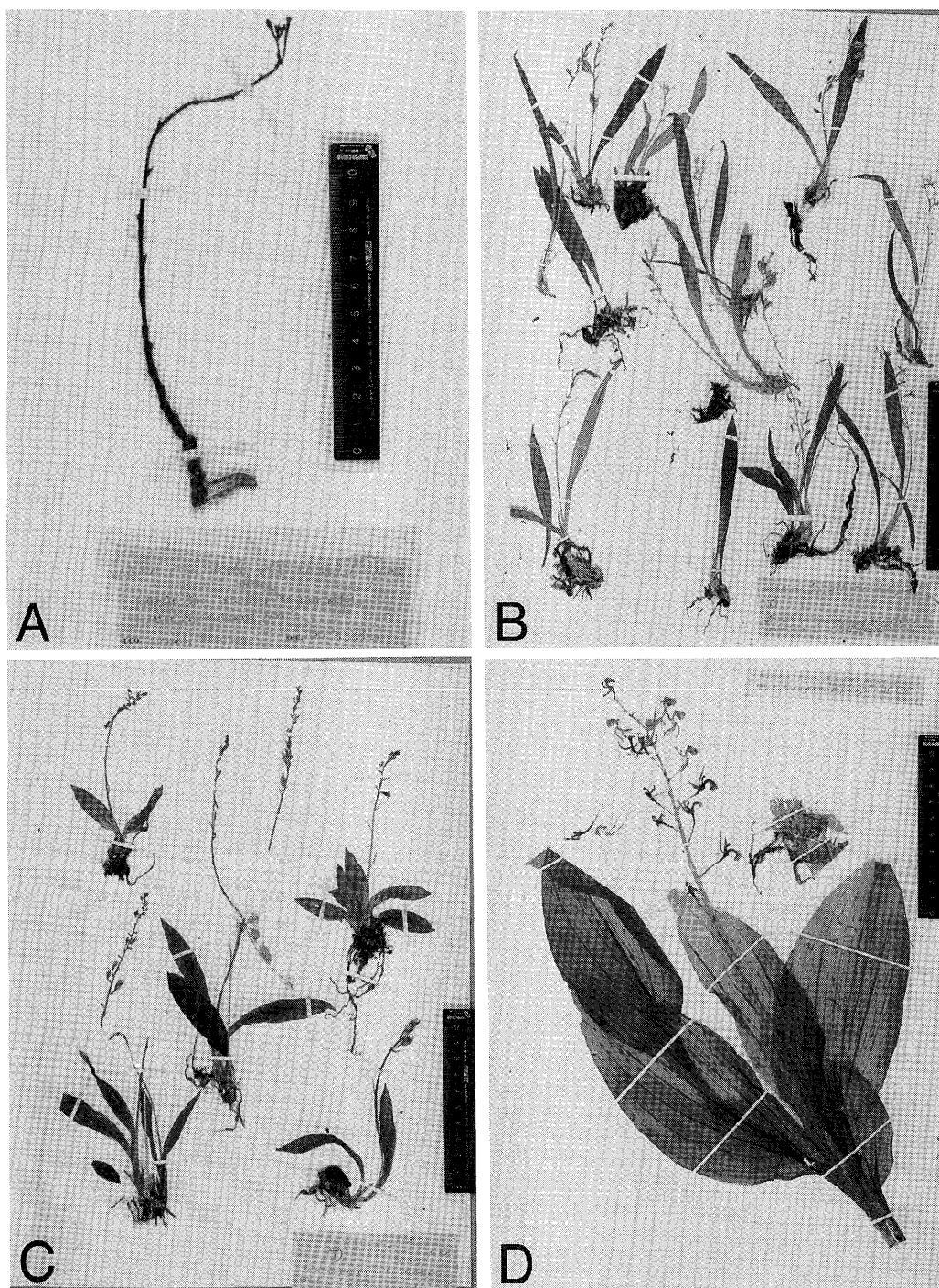


Fig. 10. A, *Lecanorchis oligotricha* Fukuy.; B, *Liparis laurisilvatica* Fukuy.; C, *Liparis nokoensis* Fukuy.; D, *Liparis sootenzanensis* Fukuy.

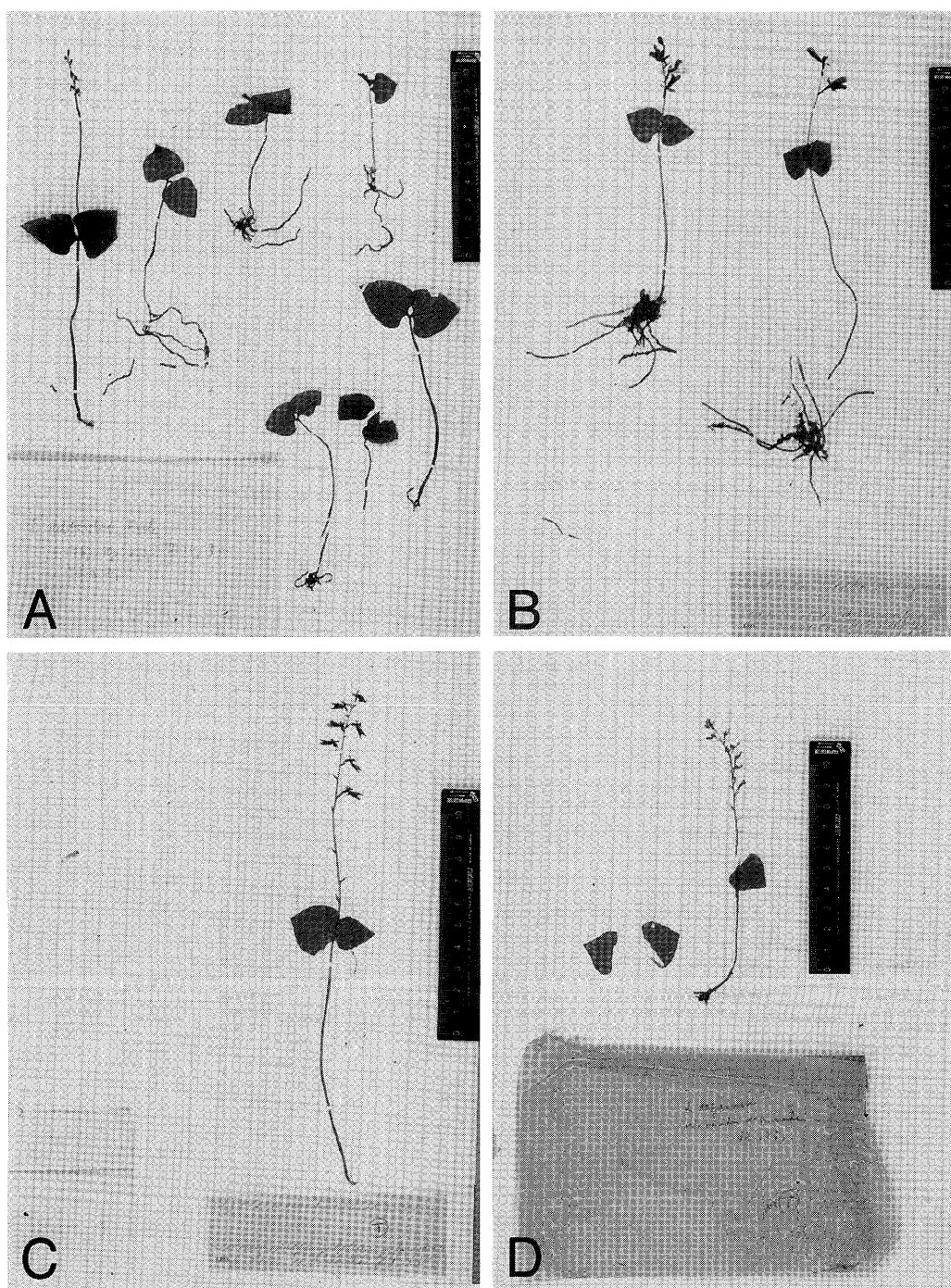


Fig. 11. A, *Listera deltoidea* Fukuy.; B, *Listera macrantha* Fukuy.; C, *Listera nankomontana* Fukuy.; D, *Listera taizanensis* Fukuy.

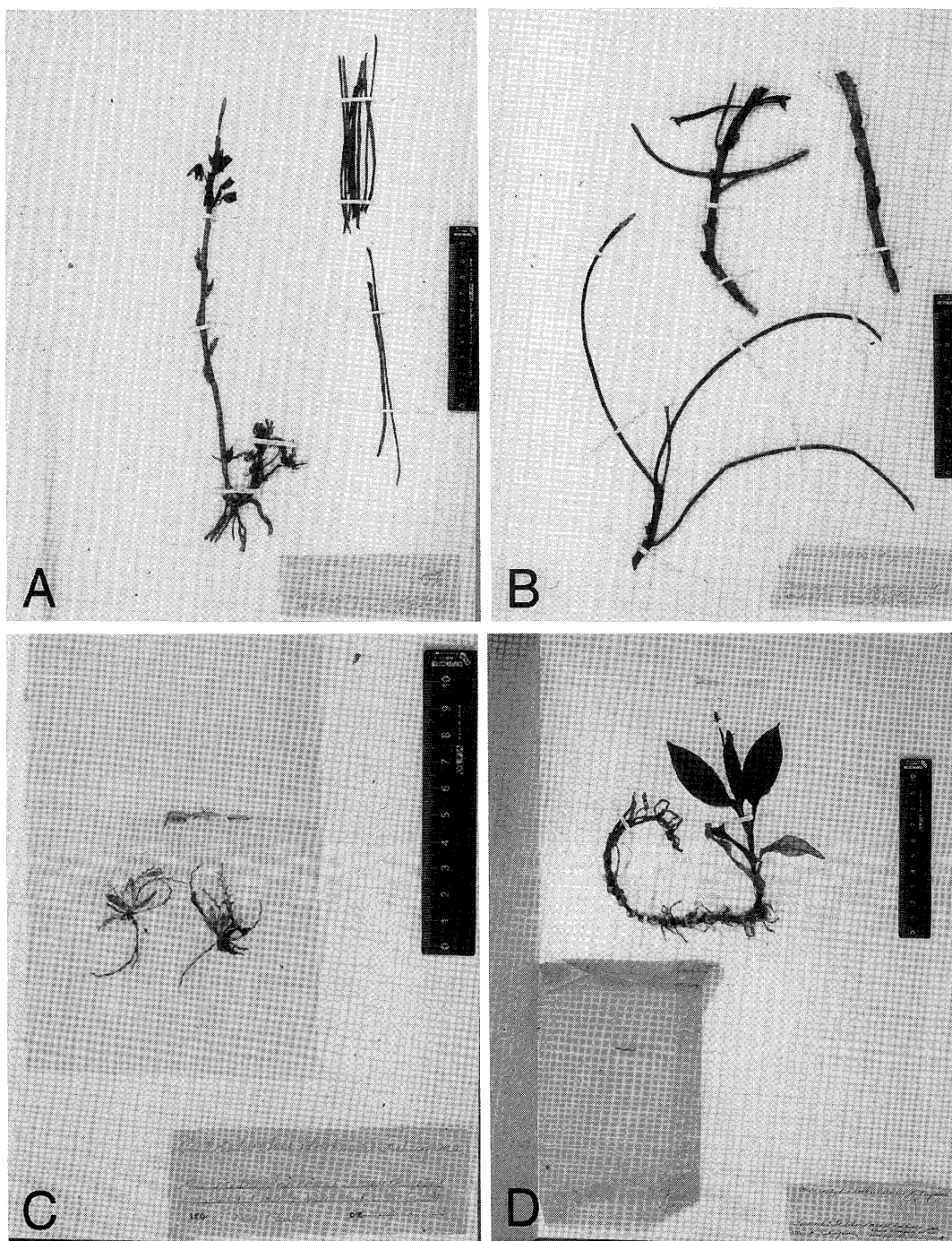


Fig. 12. A, *Luisia botanensis* Fukuy.; B, *Luisia cordata* Fukuy.; C, *Microtatochis hosokawae* Fukuy.; D, *Microstylis roohutuensis* Fukuy.

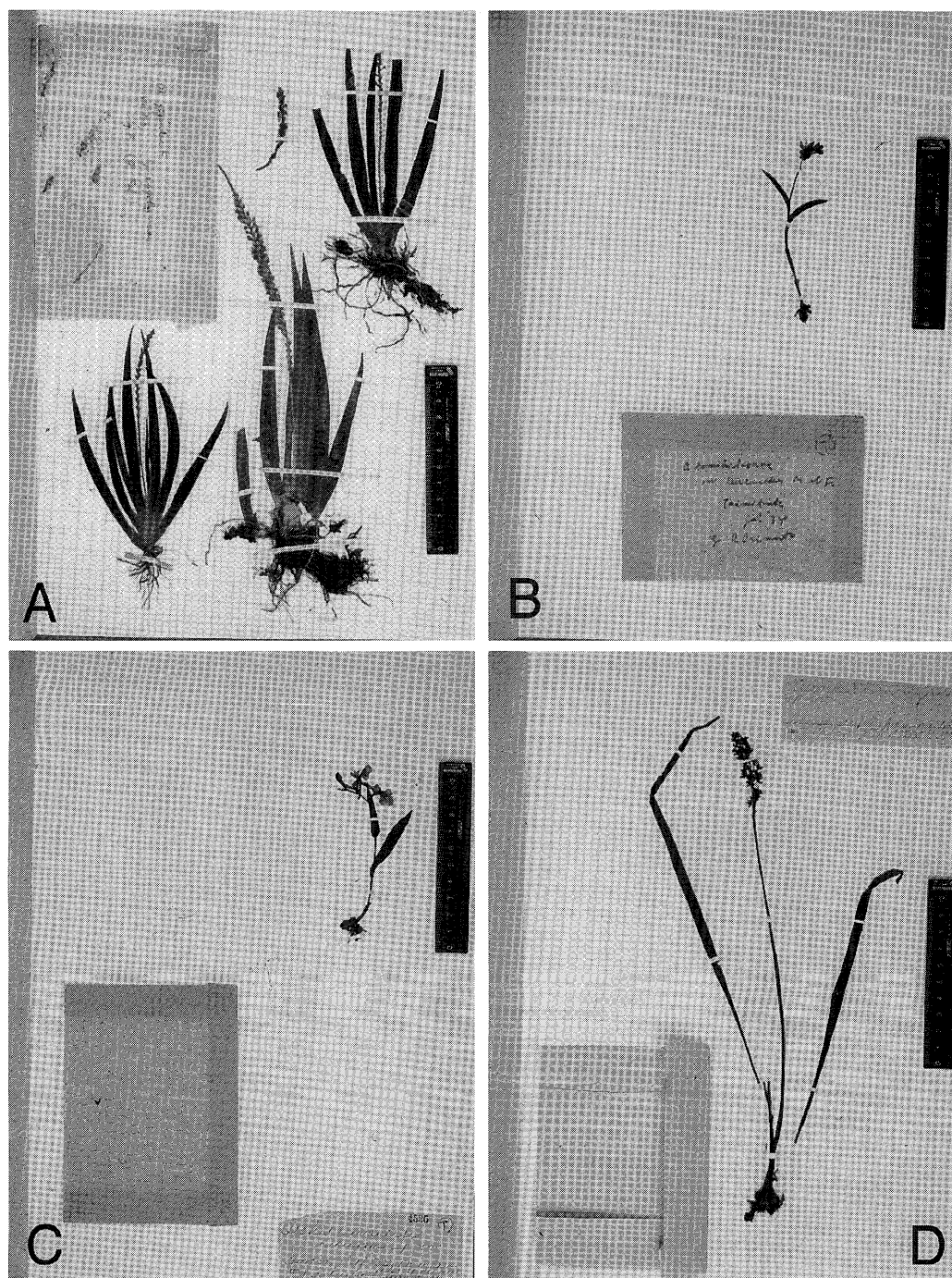


Fig. 13. A, *Oberonia gigantea* Fukuy.; B, *Orchis kunihikoana* Masam. & Fukuy.; C, *Orchis taiwanensis* Fukuy. – Holotype; D, *Oreorchis ohwii* Fukuy.

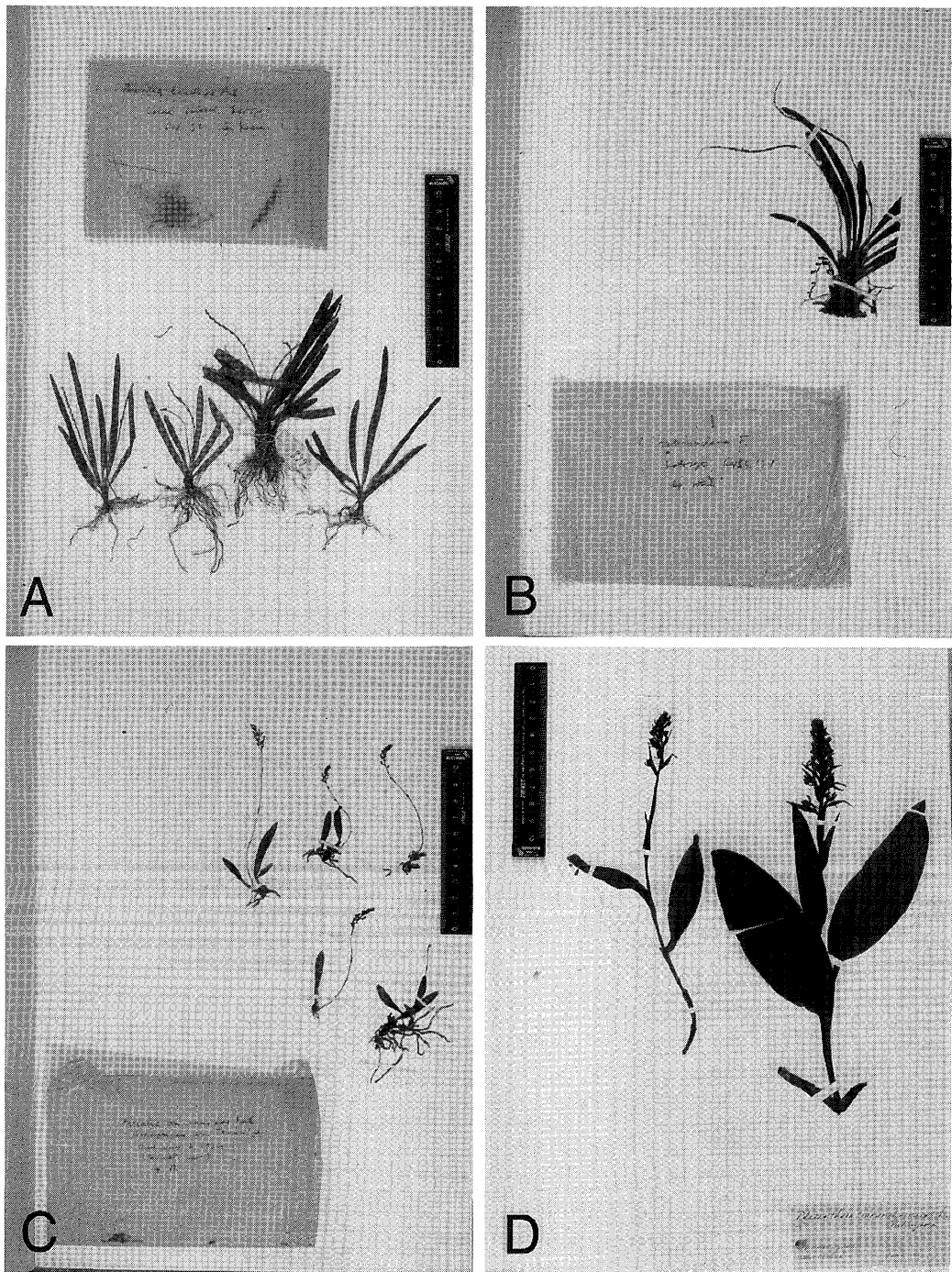


Fig. 14. A, *Phreatia kanehirae* Fukuy.; B, *Phreatia kotoinsularis* Fukuy.; C, *Phreatia taiwaniana* Fukuy.; D, *Platanthera transnokoensis* Ohwi & Fukuy.

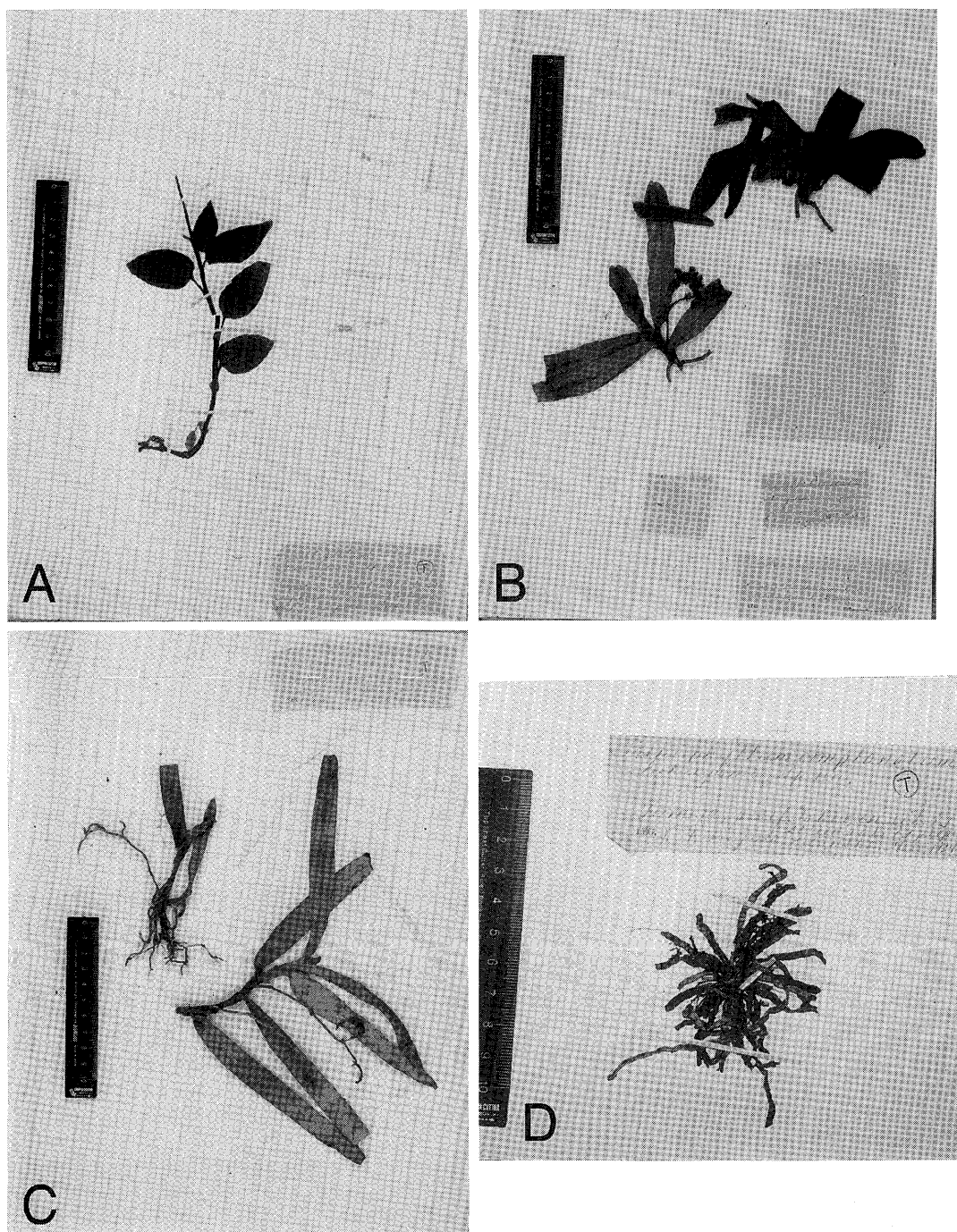


Fig. 15. A, *Pristiglottis integra* Fukuy.; B, *Robiquetia kusaiensis* Fukuy.; C, *Sarcanthus viridescens* Fukuy.; D, *Taeniophyllum complanatum* Fukuy.

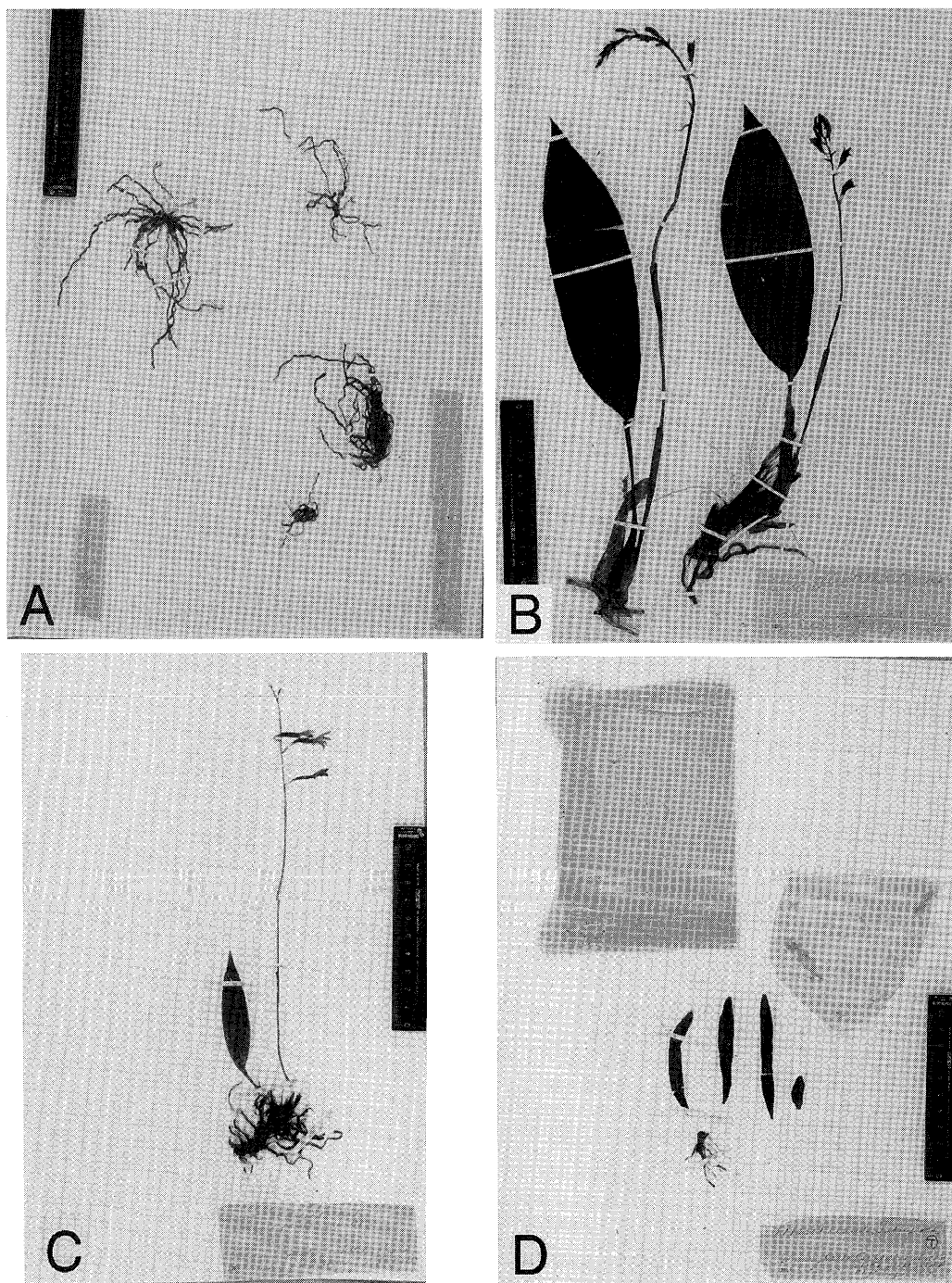


Fig. 16. A, *Taeniophyllum crassipes* Fukuy.; B, *Tainia elliptica* Fukuy.; C, *Tainia piyananensis* Fukuy.; D, *Thelasis clausa* Fukuy.

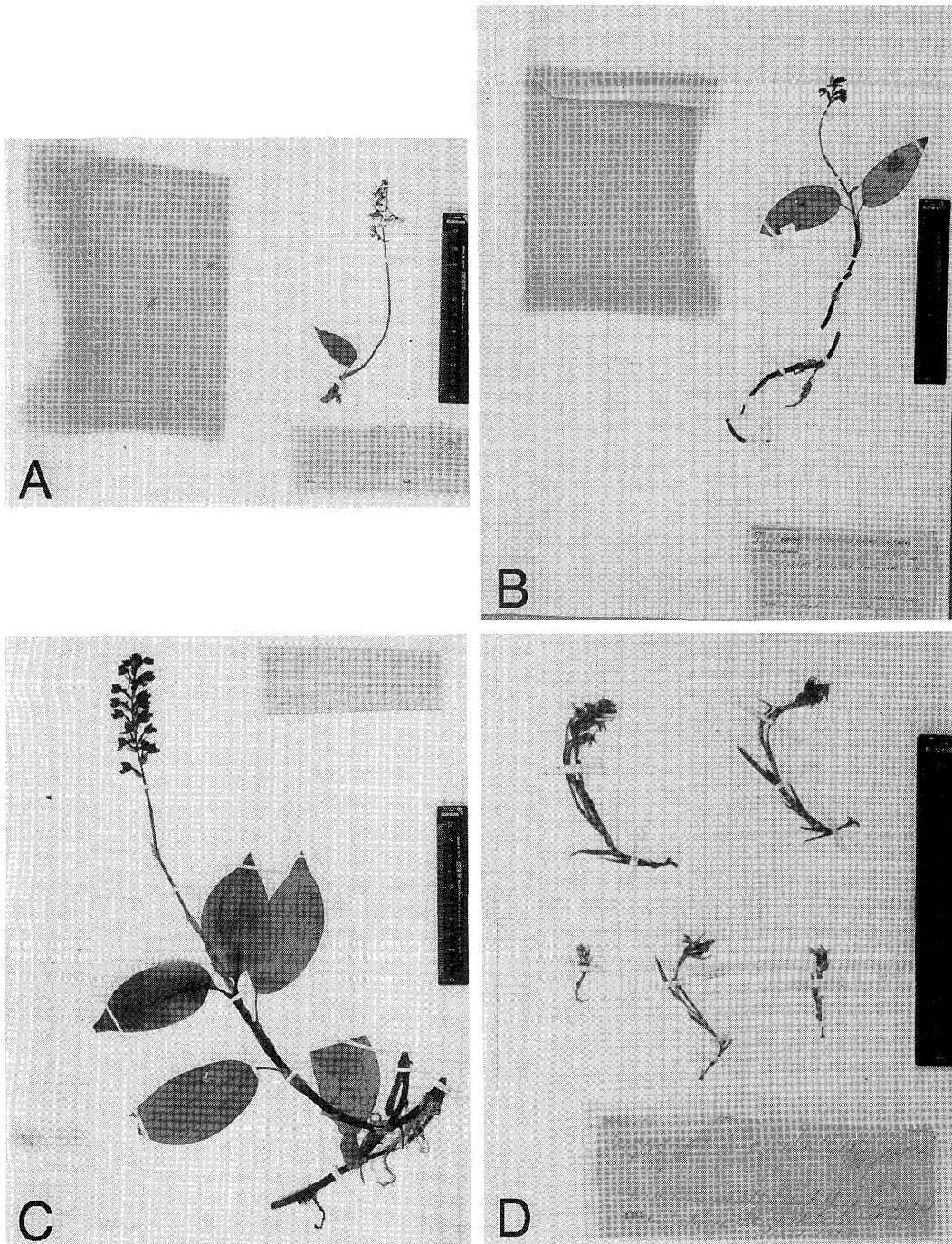


Fig. 17. A, *Tipularia odorata* Fukuy.; B, *Zeuxine fluvida* Fukuy. – Holotype; C, *Zeuxine odorata* Fukuy.; D, *Zeuxine rupicola* Fukuy.

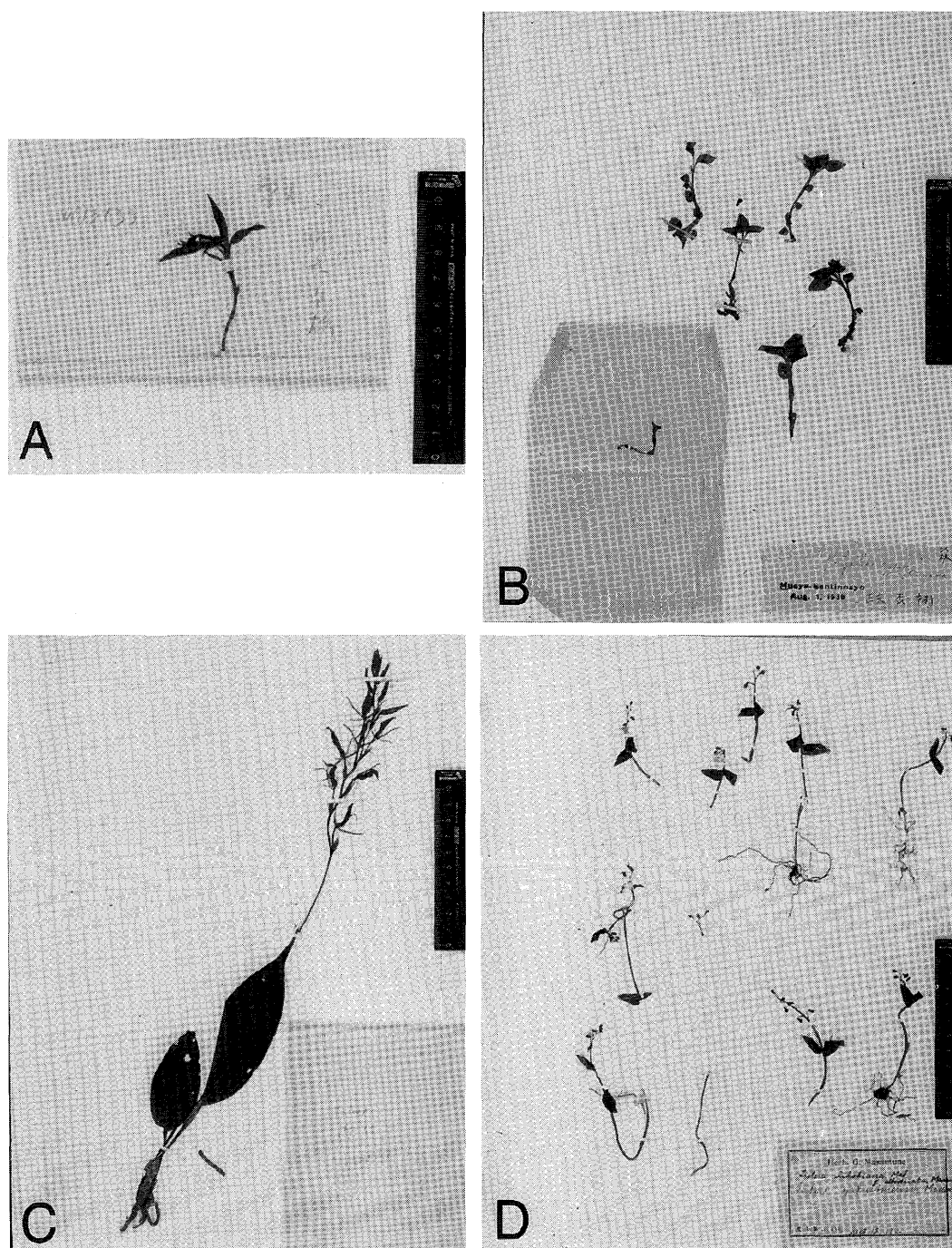


Fig. 18. A, *Apostasia nipponica* Masam. – Holotype; B, *Cheirostylis oligantha* Masam. & Fukuy.; C, *Cryptostylis taiwaniana* Masam.; D, *Listera shikokiana* Makino var. *albostrata* Masam.

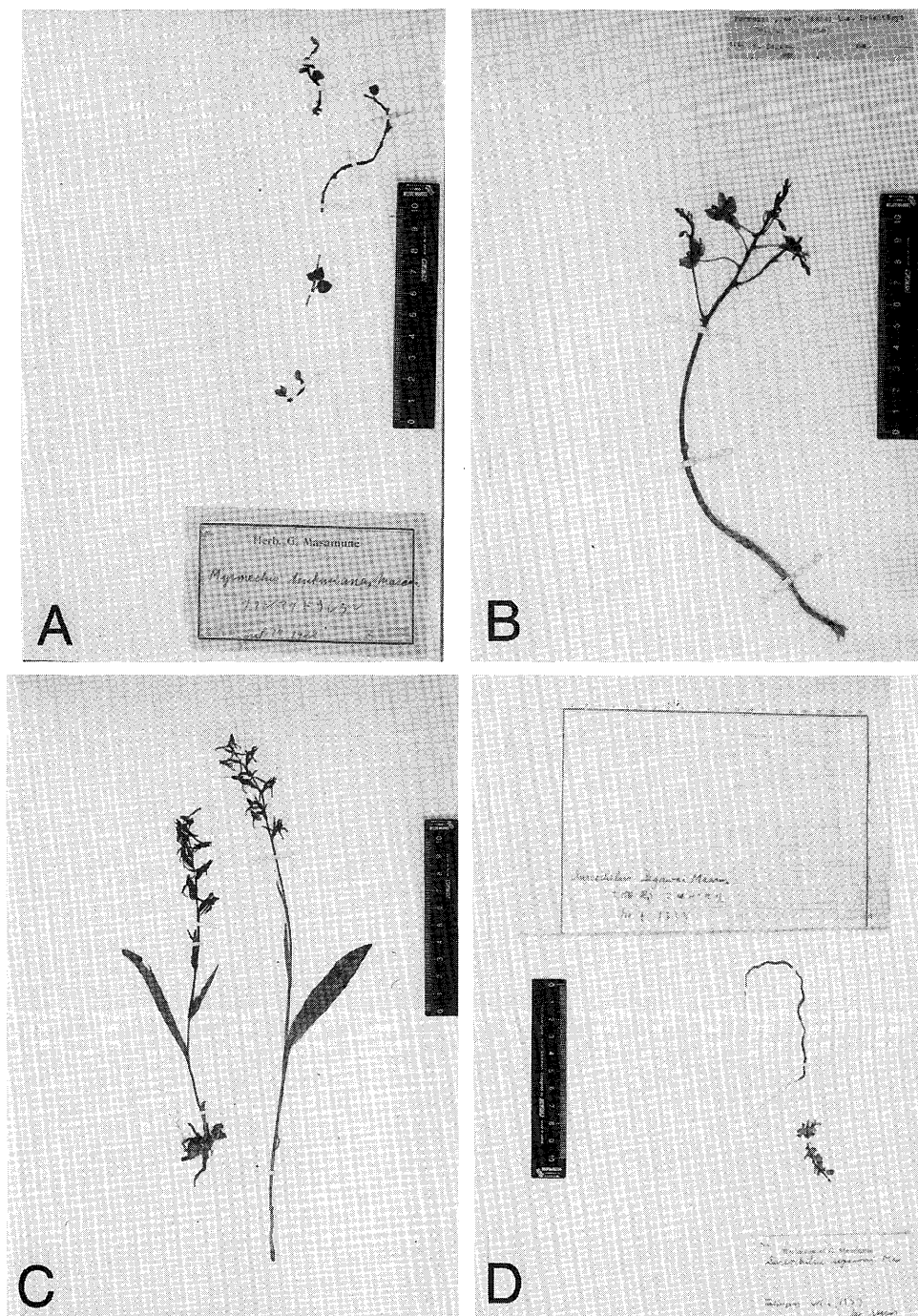


Fig. 19. A, *Myrmecis tsukusiana* Masam.; B, *Phalaenopsis riteiwanensis* Masam.; C, *Platanthera anboensis* Masam.; D, *Sarcochilus segawai* Masam.



Fig. 20. A, *Thrixspermum sasaoi* Masam.; B, *Vanda amiensis* Masam. & Segawa.